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## Confluence 3.0 Documentation

- Installing/Upgrading Confluence
  - Confluence 101
  - Installation Guide
  - Upgrade Guide
  - Database and Server Configuration Guides
  - Release Notes

- Using/Administering Confluence
  - User Guide
  - Administrator Guide

## Documentation Downloads

You can [download](#) the Confluence documentation in PDF, HTML or XML format.

## All Confluence Documentation Versions

- Confluence 3.0
- Confluence 2.10.x
- Confluence 2.9.x
- Confluence 2.8.x
- Confluence 2.7.x
- Confluence 2.6.x
- Confluence 2.5.4 to 2.5.8
- Confluence 2.0 to 2.5.3

## Related Documentation

- SharePoint Connector for Confluence
- Confluence Hosted (formerly Confluence Enterprise Hosted)
- Confluence Hosted for Small Business
- JIRA Studio
- Plugins created by our developer community

## For New Users

- Features
- Independent Reviews
- System Requirements
- Free Trial
### Resources

If you have a question about using Confluence, please contact our support team or try our troubleshooting guide. You may also want to check out the mailing lists and forums:

- Confluence Announcements
- Confluence General Forum
- Confluence Development Forum

Other handy links:

- Confluence FAQ
- Confluence Knowledge Base
- JIRA Feature Request and Bug Tracker for Confluence
- Confluence Extensions and Plugins Library / Atlassian Plugin Exchange
- Atlassian Training: Fundamentals + Administrators
- Community Discussion Space
- Development Hub
- Javadoc
- Guide to Installing an Atlassian Integrated Suite
- Wiki Adoption Guide

---

#### Current released version

Confluence 3.0.2 has now been released — see the [Confluence 3.0.2 Release Notes](#).

### Hot tip — Adding a left-hand navigation bar

Want to know how we added the dynamic table of contents on the left of this page? Take a look at the instructions.

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<td>Giles Gaskell [Atlassian Technical Writer]</td>
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RSS Feed of recent updates.
Confluence 101

Thank you for choosing Confluence. To help you get up and running quickly, we've compiled some easy instructions for configuring and using Confluence.

Are you using Confluence Hosted? If so, please visit our Confluence Hosted documentation instead.

Getting Started

1. Installing Confluence

First things first. If you haven't already got Confluence up and running, carry out the following steps:

For Windows: (click to expand)

- Go to the Atlassian Download Center.
- Click 'Show all' and download the Confluence Standalone Windows Installer (.EXE) file.
  
  If you are upgrading Confluence, please download the ZIP archive instead of the Standalone Installer.
- Install Java and set JAVA_HOME.
- Run the Windows Installer .EXE file, choose an installation directory, a home directory, and a port ('8080' will do). We recommend that you choose to 'Run Confluence as a service'.
- Confluence will start automatically when the Installer finishes, if you selected the option to launch Confluence at the end of the Installer.
- To access Confluence, go to your web browser and type this address: http://localhost:8080. Windows 'Start' menu shortcuts will also be added which you can also use to start and stop Confluence.
- Follow the Setup Wizard. This will guide you through the process of setting up your Confluence server and creating an Admin user.

For more help on the technical procedures in this section, see the Confluence Installation Guide.

If you need assistance, please create a support ticket.

Before using Confluence as a production system, you need to switch from the default HSQL database, which is provided for evaluation purposes only. Please see the documentation for details.

For Mac: (click to expand)

- You may want to watch the video showing how to do this.

Download the Confluence Standalone for Mac (TAR.GZ) file from the Atlassian Download Center, and follow the installation instructions. The Setup Wizard will guide you through the process of setting up your Confluence server and creating an Admin user.

If you need assistance, please create a support ticket.

Before using Confluence as a production system, you need to switch from the default HSQL database, which is provided for evaluation purposes only. Please see the documentation for details.

For Unix or Linux: (click to expand)

- You may want to watch the video showing how to do this.

Download the Confluence Standalone for Linux (TAR.GZ) file from the Atlassian Download Center, and follow the installation instructions. The Setup Wizard will guide you through the process of setting up your Confluence server and creating an Admin user.

If you need assistance, please create a support ticket.

Before using Confluence as a production system, you need to switch from the default HSQL database, which is provided for evaluation purposes only. Please see the documentation for details.

2. Adding Users

Confluence was designed to improve team communication, so you will want to configure it such that your colleagues can participate on it:
1. **Create users** — add user accounts for the people who will create most of the pages and blog posts in your Confluence site.
   - Your users will be automatically added to the 'confluence-users' group. For more about groups, please see the [documentation](#).

2. **(Optional) Enable 'anonymous' mode** — allow non-logged-in users to access your Confluence site. Note that they will only be able to view content where the space permissions allow 'Anonymous' access.

### 3. Configuring Mail

Confluence can send notifications based on user preferences, such as watching the contributions to a particular space or page. To take advantage of this feature, you will first need to tell Confluence about your SMTP server.

### Mastering the Basics

#### 4. Creating Spaces, Pages and Blog Posts

Your new Confluence site contains a 'Demonstration' space, which contains a Tutorial. This will guide you through the basics of using the Dashboard, creating a space, adding pages and publishing blog posts ('news items').

![Your users will need to access Confluence at http://<Confluence machine name>:8080 (not http://localhost:8080).](#)

#### 5. Searching Confluence

- Search Confluence
- Advanced search
- Search the content of attachments

#### 6. Subscribing to Updates

- Create an RSS feed
- ‘Watch’ a page (or space) to be emailed whenever it's edited
- Mark your ‘favourite’ places so you can quickly navigate to them later

### Customising Confluence

(Note that you need to be an Administrator to do the tasks in this section.)

#### 7. Adding Your Own Logo

**Why would I do this?** (click to expand)

By replacing the default Confluence logo with your organisation's logo, your Confluence site will immediately appear more familiar to visitors.

**How do I do this?** (click to expand)

Please see the following documentation:
- Changing the Confluence-wide 'global' logo
- Changing a space's logo

#### 8. Changing Confluence's Colours

**Why would I do this?** (click to expand)

By replacing the default Confluence colours with your organisation's standard colours, your Confluence site will immediately appear more familiar to visitors.

**How do I do this?** (click to expand)

Please see the following documentation:
- Customising Confluence's colour scheme
- Styling Confluence via CSS
9. Choosing a Different 'Theme'

Why would I do this? (click to expand)

Depending on what you are using Confluence for, you may want to alter the 'theme' (i.e. screen layout) for an individual space or for the entire site. For example, for a space that contains documentation, you may prefer a left-navigation theme — that is, with a menu bar at the left of the screen.

How do I do this? (click to expand)

Please see the following documentation:

- Applying a theme to a site
- Applying a theme to a space

10. Using a Page Template

Why would I do this? (click to expand)

A page template is a form that is displayed when a user creates a page, so that the user can enter content in particular fields. A page template can be made available to your entire Confluence site or just to a particular space, e.g. a Human Resources space might have a template called 'Leave Request', or an IT space might have a template called 'Asset Configuration'.

How do I do this? (click to expand)

Please see the following documentation:

- Adding a template to a site
- Adding a template to a space

11. Installing Plugins

Why would I do this? (click to expand)

There are hundreds of new features and customisations available for Confluence as plugins. For example, many additions to Confluence's macros are available as plugins. Or, if you want to populate Confluence with content created elsewhere, take a look at the WebDAV plugin and the Universal Wiki Converter.

How do I do this? (click to expand)

Confluence comes with a bunch of bundled plugins and others can be installed in one click via our plugin repository, so why not browse our most popular plugins.

Important Next Steps

(Note that you need to be an Administrator to do the tasks in this section.)

12. Connecting to an External Database

Before using Confluence as a production system, you need to switch from the default HSQL database, which is provided for evaluation purposes only. Please see the documentation for details.

13. Backing up Data

To back up your Confluence data, and establish processes for regular backups, please see the documentation.

Thank you for using Confluence.

We're always happy to help. Feel free to contact us with any questions you have.

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Performance Tuning
Installing Patched Class Files

Atlassian support or the Atlassian bug-fixing team may occasionally provide patches for critical issues that have been resolved but have not yet made it into a release. Those patches will be class files which are attached to the relevant issue in our JIRA bug-tracking system.

Installation Instructions for Confluence Standalone

Follow these steps to install a patched class file:

1. Shut down your Confluence instance.
2. Copy the supplied class files to `<installation-directory>/confluence/WEB-INF/classes/<subdirectories>`, where:
   - `<installation-directory>` must be replaced with your Confluence installation directory. (If you need more information, read about the Confluence Installation Directory.)
   - `<subdirectories>` must be replaced by the value specified in the relevant JIRA issue. This value will be different for different issues. In some cases, the subdirectories will not exist and you will need to create them before copying the class files. Some issues will contain the patch in the form of a ZIP file which will contain the desired directory structure.
3. Restart your Confluence instance for the changes to become effective.
Class files in the \WEB-INF\classes directory of a web application will be loaded before classes located in JAR files in the \WEB-INF\lib directory. Therefore, classes in the first directory will effectively replace classes of the same name and package which would otherwise be loaded from the JAR files.

**RELATED TOPICS**

*Editing Files within JAR Archives*

*Where are the files that used to be in my Confluence installation directory?*

*Administrators Guide Home  Confluence Documentation Home*

**Cache Statistics**

Confluence provides statistics about its internal caches that allow you to track the size and hit ratio of each cache and tune it for better performance (if necessary). See **Performance Tuning** for more information.

**Configurable Caches**

System administrators can change the sizes of Confluence’s internal caches through the Administration Console and these changes will take effect without the need to first shut down and then restart Confluence. The maximum number of units for any of the defined cache regions can be adjusted individually.

Note that larger cache sizes will require more memory at runtime, so you should review the memory allocation of the Confluence Java process and the physical memory available on your server.

**Viewing Cache Statistics and Modifying Cache Sizes**

To view the cache statistics:

1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
2. Click ‘Cache Statistics’ in the left-hand panel. There you will find a list of all objects cached within Confluence.
3. Click the ‘Advanced’ tab for more detail. Below is an example for one of the most frequently used caches, the ‘Content Object’ cache.

<table>
<thead>
<tr>
<th>Name</th>
<th>Percent Used</th>
<th>Effectiveness</th>
<th>Objects / Size</th>
<th>Hit / Miss / Expiry</th>
<th>Adjust Size</th>
<th>Flush</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content Object</td>
<td>80%</td>
<td>73%</td>
<td>4023 / 5000</td>
<td>374550 / 140460 / 55044</td>
<td>Adjust Size</td>
<td>Flush</td>
</tr>
</tbody>
</table>

About the generated numbers:

- **Percent Used**: 
  \[ \text{Percent Used} = \frac{\text{Objects}}{\text{Size}} \]

- **Effectiveness**: 
  \[ \text{Effectiveness} = \frac{\text{Hits}}{\text{Hits} + \text{Misses}} \]

- **Objects / Size**: The number of entries in the cache / the number of total possible entries allowed (configurable).

- **Hit / Miss / Expiry**: The number of reads accessing cache where required content was found / the number of reads accessing cache where required content was not found / the number of objects evicted from the cache.

- **Adjust Size**: Use this option to specify a different maximum cache size. Enter a new cache size and click the ‘Adjust Size’ button to set it.

- **Flush**: Flushes the cache.

For instance, to calculate **Percent Used**:

\[
\text{Percent Used} = \frac{\text{Objects}}{\text{Size}} \\
\text{Percent Used} = \frac{4023}{5000} = 80\% 
\]

To calculate **Effectiveness**:

\[
\text{Effectiveness} = \frac{\text{Hits}}{\text{Hits} + \text{Misses}} \\
\text{Effectiveness} = \frac{374550}{(374550 + 140460)} = 73\% 
\]
The clustered versions of Confluence use distributed cache called Tangosol Coherence.

Additional Notes about Configurable Caches

Changes to cache size configurations persist across confluence restarts as they are saved in the `<confluence-home>/config/confluence-coherence-cache-config.xml` file (or `<confluence-home>/config/confluence-coherence-cache-config-clustered.xml` for a clustered instance). In most cases, a Confluence administrator will never need to know about these files. However, if it is necessary to tune cache options other than the maximum cache size, this can be done by manually editing these files. See Cache Performance Tuning for details.

Important note about clustered Confluence installations

The cache configuration file is stored in a home directory of each cluster node. When a Confluence administrator changes a cache size, all running cluster nodes will automatically update their own configuration files in their respective home directories. However, if a cluster node is not running when an administrator adjusts a cache size, the file in its home directory will not be updated. Since cluster caches are configured by the first node to start, if a node with an outdated cache configuration is the first to start up, the whole cluster would end up using the configuration of that node. However, copying this file from one node to another would resolve this issue.

Performance Tuning

If you need to tune your application when under high usage, you may like to review this document for suggestions.

RELATED TOPICS

- Viewing System Information
- Cache Performance Tuning for Specific Problems
- Cache Performance Tuning
- Cache Statistics
- Confluence Cache Schemes
- Viewing and Editing License Details

Changing time of Daily Backup

Atlassian recommends disabling the XML backup both for performance and reliability. XML site backups are only necessary for migrating to a new database. Setting up a test server or Establishing a reliable backup strategy is better done with an SQL dump. Upgrading is better done without the XML backup. This page can also help with troubleshooting XML Upgrading Space versions.

By default, Confluence runs its daily backup at 2.00 AM. You can configure Confluence to perform the backup at a time that is best suited to you or your organisational needs.

Time is derived from the Confluence server

The time zone is taken from the server on which Confluence is running. To check the time according to the server, do the following:

1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
   - Click ‘System Information’ in the left-hand panel and look at the ‘System Time’.

Confluence uses Quartz for scheduling periodic jobs. To change the time of your daily backup, you will need to edit the Quartz configuration.
To change the time of your daily backup

1. Open the Quartz configuration file `schedulingSubsystemContext.xml` located under `confluence/WEB-INF/lib/confluence-x.x.x.jar`. Where x.x.x is your Confluence version number.

2. Find the following section of the file:

   ```xml
   <bean id="backupTrigger" class="org.springframework.scheduling.quartz.CronTriggerBean">
     <property name="jobDetail">
       <ref bean="backupJob"/>
     </property>
     <property name="cronExpression">
       <value>0 0 2 * * ?</value>
     </property>
   </bean>
   ```

3. The string `0 0 2 * * ?` sets up a Cron Trigger for the job to run at the zeroth second of the zeroth minute of the 2nd hour, every day of every month, every day of the week.

4. Re-jar the file, either with a zip utility (change the title of .zip back to .jar) or a java command.

5. You can set a new time by editing this string. Note that the date and time format in this configuration file is in this order:
   - Second minute hour day
   - Minute hour day
   - Hour day month
   - Day month year
   - Year month day
   - Day month year


   For example, to set the new time to twenty past ten PM, change the string to `0 20 22 * * ?`.

   If you wanted to back up only once a week, for example, at midnight on Sundays, you would change the string to `0 0 0 ? * SUN`.

   For complete details on the formatting of the cron string, please see [http://www.opensymphony.com/quartz/api/org/quartz/CronTrigger.html](http://www.opensymphony.com/quartz/api/org/quartz/CronTrigger.html).

**RELATED TOPICS**

- Alternative Backup Strategy
- User Submitted Backup & Restore Scripts
- Configuring Daily Backups
- Changing time of Daily Backup
- Backup FAQ
- Manually Backing Up The Site
- Site Backup and Restore

**Confluence Data Directory Configuration**

Here is a link listing important Confluence files.

The home directory defines the location of the directory where Confluence will store its data, including attachments, indexes and backups. Administrators can set this location by defining a value for the file `<XY-INSTALL>/confluence/WEB-INF/classes/confluence-init.properties`. To find what your home directory is currently set to, open this file and check the `confluence.home` property. It is unset on new installations.

**Windows Configuration**

On Windows, this path:

C:\confluence\data
will be written like so:

```
confluence.home=C:/confluence/data
```

Note that all backslashes (\) are written as forward slashes (/).

**UNIX/Linux/Mac Configuration**

On any UNIX-based system, the property is defined using the normal directory syntax:

```
confluence.home=/var/confluence/
```

**Symbolic links**

If your `confluence.home` directory contains a symbolic link, you must define the absolute path.

> Please note that there can be no symbolic links within the `confluence.home` directory. If disk space is an issue, place the entire `confluence.home` directory on a disk partition where there is enough space.

The absolute path of generated files (such as exports) is compared with the absolute path of the `confluence.home` directory when constructing URLs. When a sub-directory has a different path, the URL will be incorrect, and you may receive "Page not found" errors. These measures are in place to prevent "directory traversal" attacks.

**Fixing the Confluence Configuration**

The Confluence configuration file: `confluence-cfg.xml` inside the home directory may contain references to the original location of your Confluence home. You will need to edit this file to update these references to also point to the new location. The two properties in this file that need to change are:

- `daily.backup.dir` if you have not configured your backups to be placed elsewhere already
- `hibernate.connection.url` if you are using the embedded HSQL database.

**Confluence home directory contents**

The Confluence home directory contains data that work in concert with the Confluence database to provide the wiki experience. This document outlines the purpose of the various files and directories in the Confluence home directory.

Tip: Another term for 'Home directory' would be 'data directory'.

**Files and directories**

**confluence.cfg.xml**

This file is the most critical file in the Confluence home directory. It contains all of the information necessary for Confluence to start up such as:

- Product license
- Context path
- Database details such as location and connection pool settings
- Paths to important directories

**attachments**

This directory contains every version of each attachment stored in Confluence. This directory is not used when Confluence is configured to store attachments in the database. Attachments are always stored in the database in clustered instances of Confluence.

Paths within this directory have the following structure:

```
/attachments/PAGE_ID/ATTACHMENT_ID/VERSION
```

An alternative directory may be specified for attachment storage by setting the `attachments.dir` property in `confluence.cfg.xml`

**backups**

Confluence will place its daily backup archives in this directory, as well as any manually generated backups. Backup files in this directory
take the following form:

```
daily-backup-YYYY_MM_DD.zip
```

An alternative directory may be specified for backups by setting the `daily.backup.dir` property in `confluence.cfg.xml`.

**bundled-plugins**

This directory exists for Confluence 2.3 and above

Recent versions of Confluence ship with a set of bundled plugins. These are plugins written by the Atlassian and the Confluence community that we think provide useful and broadly applicable functionality in Confluence. The `bundled-plugins` directory is where Confluence will unpack its bundled plugins when it starts up. This directory is refreshed on every restart, so removing a plugin from this directory will not uninstall the plugin; it will simply be replaced the next time Confluence starts up.

**database**

This is where Confluence stores its database when configured to run with the HSQL embedded database and as such contains all Confluence runtime data. Instances configured to run using an external database such as MySQL will not use this directory.

**index**

This is where Confluence stores its indexes for rapid retrieval of often used data. The Confluence index is used heavily by the application for content searching and recently updated lists and as such is critical for a running Confluence instance. It is important to note however that should the data in this directory be lost or corrupted, it can be restored by running a full reindex from within Confluence. This can take a long time depending on how much data is stored Confluence's database.

An alternative directory may be specified for the index by setting the `lucene.index.dir` property in `confluence.cfg.xml`. As this is the most heavily accessed directory in the Confluence home directory you might want to consider hosting it on the fastest disk available. It would also be useful if the disk holding the Confluence index was not heavily used by any other application to reduce access contention.

**plugin-cache**

This directory exists for Confluence 2.3 and above

As of Confluence 2.3, all Confluence plugins are now stored in the Confluence database. To allow for quicker access to classes contained within the plugin JARs, Confluence will cache these plugins in the `plugin-cache` directory. This directory is updated as plugins are installed and uninstalled from the system and is completely repopulated from the database every time Confluence is restarted. As such, removing plugins from this directory does not uninstall them.

**resources**

The `resources` directory stores any space logos used in your Confluence instance. For each space with a space logo, there is a directory within `resources` named after the space’s key. That directory contains the space’s logo.

**temp**

The `temp` directory is used for various runtime functions such as exporting, importing, file upload and indexing. As the name suggests, and file in this directory is of temporary importance and is only used during runtime. This directory can be safely emptied when Confluence is offline.

An alternative directory may be specified for temporary data by setting the `webwork.multipart.saveDir` property in `confluence.cfg.xml`.

**thumbnails**

When Confluence generates a thumbnail of an image (for example when the `gallery` macro is used), the resulting thumbnail is stored in this directory for quicker retrieval on subsequent accesses. This directory is essentially a thumbnail cache, and deleting files from this directory simply means the thumbnail will have to be regenerated on the next access.

**Confluence 2.2 and older**

The following files and directories were used by versions of Confluence older than 2.3

**config**

The `config` directory is used to store data used by Confluence’s bandana data persistence framework. This system is used by Confluence to store the global instance settings and is used by various plugins for their own configuration and data persistence needs. Confluence
versions 2.3 and later store these data in the Confluence database and do not use this directory.

The most important file in this directory is the `confluence-global.bandana.xml` file. This file is used to store all of the settings from the Administration console in Confluence.

**plugins**

The `plugins` directory is where Confluence stores all installed plugin JARs. It is possible to install and remove plugins by placing and deleting plugin JARs from this directory.

**default-formatting.properties**

This properties file contains various formatting information such as the formats for decimal numbers and dates used in the Confluence user interface. These configuration data were relocated to the Confluence database from Confluence 2.3 and onwards.

---

Content Index Administration

The Content Indexes power Confluence's search functionality and they are also used for a number of related functions such as building email threads in the mail archive, the Space Activity feature and lists of recently-updated content. The Gliffy Plugin also uses them for some of its functionality.

For reasons of efficiency, content is not immediately added to the index. New and modified Confluence content is first placed in a queue and the queue is processed once every minute (by default).

**On this page:**

- Viewing the Content Index Summary
- Rebuilding the Content Indexes
- Slow Reindexing
- Viewing the Index Browser
- More Hints and Tips

**Viewing the Content Index Summary**

To see information about your Confluence instance's content indexing,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Click 'Content Indexing' under the heading 'Administration' in the left-hand panel.

*Screenshot: Index summary*
Rebuilding the Content Indexes

The content indexes are maintained automatically, but you may need to rebuild one or both of them manually under circumstances such as these:

- Your searching and mail threading are malfunctioning. (Rebuild the Search Index.)
- Your 'Did You Mean' feature is malfunctioning. (Rebuild the Did You Mean Index.)
- After an upgrade. If a content re-index is required after an upgrade, it will be noted in an upgrade subsection of the relevant release notes.

In new Confluence installations, the 'Did You Mean' feature is not initially activated. To activate it, you first need to build its index by clicking its 'Build' button on this page.

To rebuild either of the content indexes,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Click 'Content Indexing' under the heading 'Administration' in the left-hand panel.
3. Click the 'Rebuild' button in either the 'Search Index' or 'Did You Mean Index' sections on this page, depending on the particular index you want to rebuild.

   - If one of these indexes has not yet been built, its button will indicate 'Build' (instead of 'Rebuild').
   - As shown in the image below, only one index can be (re)built at a time.

**Screenshot: Content Indexing**
Slow Reindexing

Does the reindexing take a long time to complete? The length of time depends on the following factors:

- Number of pages in your Confluence instance.
- Number, type and size of attachments.
- Amount of memory allocated to Confluence.

It may help to increase the heap memory allocation of Confluence by following the instructions in the JIRA documentation.

If you are running an older version of Confluence and find that the index rebuild is not progressing, you may need to shut down Confluence, and restart it with the following Java system property set: bucket.indexing.threads.fixed=1. This will cause the re-indexing to happen in a single thread and be much more stable (but slower).

Viewing the Index Browser

You can access the Lucene index browser used with Confluence, to see if the required documents have been added to the index.

To view the index browser,

1. Open a browser window.
2. Log in to Confluence.
3. Type the following into the browser address bar: `<Confluence location>/admin/indexbrowser.jsp`. For example:
   
   http://localhost:8080/admin/indexbrowser.jsp

4. You will be asked "Which index would you like to browse?"
5. Type in the path of your index directory. By default, this is located at `<Confluence Home directory>/index`. For example, c:\confluence\data\index.
6. You should see a list of indexed file names.
More Hints and Tips

- If you are still experiencing problems after performing the above rebuild, the next step might be to remove the index and rebuild it from scratch.
  
  The Space Activity feature uses the index to store data. If you remove the index file, the existing activity data will disappear.

- A tip for the development community: If you have the Confluence source, you can look for references to the SmartListManager to find the screens and lists that rely on the content index.

RELATED TOPICS

1. Configuring Indexing Language
2. Content Index Administration
3. Creating a Lowercase Page Title Index
4. Rebuild the Content Indices from scratch
5. Working with Macros

Finding Unused Spaces

Sometimes, you want to know what is not being used. It's great to know what's getting most attention, but what about stagnant pages, or even entire spaces that are no longer active?

While viewing space activity and the Global Statistics plugin can provide hints, they still don't always provide enough detail. The simple way is to go directly to the database. We recommend DbVisualizer, and have basic instructions for connecting it to HSQLDB.

The following query identifies the last date on which content was modified in each space within a single Confluence instance:
It returns a list of spacenames, and the last date and time at which any content was added or changed.

Alternatively, this one simply identifies spaces whose content hasn't changed since a specified date:

```sql
SELECT spaces.spacename
FROM content, spaces
WHERE content.spaceid = spaces.spaceid
HAVING MAX(content.lastmoddate) < '2006-10-10';
```

The result is a simple list of space names.

It's also possible to present the information in a wiki page, using the SQL plugin, which can be installed via the Plugin Repository. You'll also need to define a database resource in `conf/server.xml` and `confluence/WEB-INF/web.xml`, as described [here](#). Having done so, you can use wiki markup code like the following, replacing `confluenceDS` with the name of your own local datasource:

```sql
h3. Space activity
{sql:dataSource-confluenceDS|output-wiki}
SELECT spaces.spacename AS Space, MAX(content.lastmoddate) AS LastModified
FROM content, spaces
WHERE content.spaceid = spaces.spaceid
GROUP BY Space;
{sql}
```

The result will be something like this:

**Space activity:**

<table>
<thead>
<tr>
<th>space</th>
<th>lastmodified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Space</td>
<td>2007-10-11 11:34:04.914</td>
</tr>
</tbody>
</table>

You can try the Chart plugin in combination with the SQL plugin to give more visually attractive results.

### Important Directories and Files

**The Installation Directory**

The 'Confluence Installation directory' is the directory into which the Confluence application files and libraries have been unpacked (unzipped) when Confluence was installed. Confluence does not modify or store any data in this directory. This directory is also sometimes called the 'Confluence Install directory'.

**Important Files and Directories**

- `confluence/WEB-INF/classes/confluence-init.properties`: This file tells Confluence where to find the Confluence Home Directory. This file is modified by the administrator when installing Confluence.
- `confluence/WEB-INF/classes/osuser.xml`: This file is modified when connecting Confluence to an external user management system such as an LDAP server or JIRA instance in Confluence 2.0 and earlier. For more information, refer to Understanding User Management in Confluence.
- `confluence/WEB-INF/classes/atlassian-user.xml`: This file is modified when connecting Confluence to an external user management system such as an LDAP server or Crowd. For more information, refer to Understanding User Management in Confluence.
- `confluence/WEB-INF/lib/`: This directory is used when deploying plugins, especially those plugins that cannot automatically be loaded through the Administration Console.
- `confluence/WEB-INF/classes/log4j.properties`: Confluence's logging configuration file. See Working with Confluence Logs.
- `confluence/WEB-INF/classes/ehcache.xml`: This is where you can configure the size of Confluence's internal caches.
Memory Settings
The file used to edit JAVA_OPTS memory settings will depend on the method used to install Confluence, as well as the operating system used for your installation.

- **Windows Users**
  - Confluence Standalone — bin/setenv.bat
  - Confluence Installer — wrapperwin32.conf

- **Mac/Linux Users**
  - Confluence Standalone — bin/setenv.sh
  - Confluence Installer — wrapperosx.conf

The Temp Directory
The temp directory is configured in the Java runtime and some Confluence components write temporary files or lockfiles into this directory. Typically, this directory is /tmp on Unix systems, or C:\Temp on Windows.

To change the location of this directory, you should start the Java Virtual Machine in which confluence is running with the argument: `-Djava.io.tmpdir=/path/to/your/own/temp/directory`

The Confluence Home Directory
The Confluence Home directory is the folder where Confluence stores its configuration information, search indexes and page attachments. If you're using the embedded HSQLDB database supplied for evaluation purposes, the database files are also stored in this directory.

Tip: Another term for ‘Home directory’ would be ‘data directory’. Administrators can expect the Confluence Home Directory to grow quite large in a busy site.

The location of this directory is configured by the system administrator during installation (see `confluence-init.properties` above).

Important Files and Directories
- **confluence.cfg.xml**: Confluence's core configuration file; includes the configuration for connecting to its database.
- **default-formatting.properties**: Some auxiliary configuration data concerning default number and date formats.
- **attachments/**: All file attachments in the Confluence site are stored under this directory. This is the only place Confluence keeps attachment files.
- **backups/**: If Confluence is configured to produce daily backups, these are kept in this directory. Administrators should occasionally delete old or unwanted backups from this directory to prevent it from growing too large.
- **config/**: Miscellaneous global and per-space configuration files are kept in this directory.
- **database/**: If Confluence is being run from the embedded HSQL database, the database files will be kept in this directory.
- **index/**: The full-text search index is kept in this directory. Removing or modifying files in this directory may cause search to no longer function. Rebuilding the search index from Confluence's global administration screen will completely regenerate the contents of this directory.
- **plugins/**: Dynamically uploaded plugins are stored in this directory. Administrators can install new plugins by copying them into this directory and triggering a scan from the plugin management page.
- **temp/**: Confluence stores temporary files in this directory, especially during backups and exports. A daily job within Confluence deletes files that are no longer needed.
- **thumbnails/**: Stores temporary files for image thumbnails. The contents of this directory can be safely deleted, as Confluence will regenerate thumbnails as required.
- **velocity/**: Storage for customised page layouts, globally and per-space.

Database
All other data — page contents, links, archived mail and so on — is kept in the database. If you have configured Confluence to use the embedded HSQL database, the database will store its files under `database/` in the Confluence Home Directory. Otherwise, the database management system you are connecting to is responsible for where and how your remaining data is stored.
**Tip**

All of Confluence’s persistent data is stored either in the Confluence Home Directory, or the database. If you have backup copies of both of these, taken at the same time, you will be able to restore Confluence from them (see Restoring Data from other Backups).

**RELATED TOPICS**

Confluence Home Directory  
Confluence Installation Directory  
The Embedded HSQLDB Database  
Database Configuration

Confluence Home Directory

Often in the documentation, you’ll see a reference to the ‘Confluence Home directory’.

**What is the Confluence Home Directory?**

The Confluence Home directory is the folder where Confluence stores its configuration information, search indexes and page attachments. If you’re using the embedded HSQLDB database supplied for evaluation purposes, the database files are also stored in this directory.

Tip: Another term for ‘Home directory’ would be ‘data directory’.

You can also read about the contents of the Home directory.

**Finding the Confluence Home Directory**

The location of the Confluence Home directory is defined when you install Confluence. This location is stored in a configuration file called `confluence-init.properties`, which is located inside the `confluence/WEB-INF/classes` directory in your Confluence Installation directory.

When Confluence first starts up, it reads the `confluence-init.properties` file to determine where to look for the Home directory.

**Confluence Installation Directory**

The ‘Confluence Installation directory’ is the directory into which the Confluence application files and libraries have been unpacked (unzipped) when Confluence was installed. Confluence does not modify or store any data in this directory. This directory is also sometimes called the ‘Confluence Install directory’.

**Manually Backing Up The Site**

Confluence is configured to make a daily backup of your data and store it as a zipped XML file in the ‘backups’ folder under the Confluence Home Directory. A System Administrator can also manually back up the data from the Administration Console.

You need to have System Administrator permissions in order to perform this function.

> Consider an alternative backup strategy if your Confluence site is large or you are encountering problems with your automated backup.

To manually back up your site,
1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Click 'Backup & Restore' in the 'Administration' section of the left-hand panel.
3. Select 'Archive to backups folder' to store a copy of the backup in the same folder as Confluence’s daily backups. (If you do not archive the backup it will be made available for you to download, and then deleted from the server after 24 hours).
4. Select 'Backup attachments' to include attachments in your backup.
5. Click 'Backup'.
   - Please note that this process will take a few minutes.
6. Once the backup is completed, you will be prompted to download the zipped backup file.

If you are running Confluence behind Apache and are facing timeout errors, please consider creating the export directly from Tomcat, instead of going through Apache. This will speed up the process and prevent timeouts.

**RELATED TOPICS**

- Alternative Backup Strategy
- User Submitted Backup & Restore Scripts
- Configuring Daily Backups
- Changing time of Daily Backup
- Backup FAQ
- Manually Backing Up The Site
- Site Backup and Restore

**Configuring Daily Backups**

Confluence backs up your data on a daily basis into a zipped XML file. By default, the backup is performed at 2.00 a.m. and the backup files are stored in the `backups` folder under the Confluence Home Directory.

**Time is derived from the Confluence server**

The time zone is taken from the server on which Confluence is running. To check the time according to the server, do the following:

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Click 'System Information' in the left-hand panel and look at the 'System Time'. You can change the time of the daily backup.

**Consider an alternative backup strategy** if your Confluence site is large or you are encountering problems with your automated backup.

The default naming convention for the backup files is 'daily-backup-yyyy_MM_dd'. Confluence can write backups to both local and mapped network drives.

From the **Administration Console**, you can:

- Enable or disable backups.
- Include or exclude attachments in backups.
- Configure a different path to store backup files.
- Change the naming format used for the files.
To configure your daily backups,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin’. The ‘Administration Console’ view will open.
2. Click 'Daily Backup Admin' in the 'Configuration' section.
3. Click the 'Edit' button on the 'Daily Backup Administration' screen.
4. Now you can do the following:
   - To disable backups — Select 'Disable'.
   - To specify an alternate path to store backup files — Select 'Custom' and then enter the path. The directory must be on either a local drive or a mounted network drive.
   - Please ensure the mapped drive is on a physical server, not a Virtual Machine image.
   - To exclude attachments from backups — Select 'Off' beside 'Backup Attachments'. By default, this is 'On'.
   - To use a different naming prefix format — Enter the new format in the 'Backup File Prefix' input field.
   - To use a different date format — Enter the date format in the 'Backup File Date Pattern' input field using the syntax described in this document from Sun.
5. 'Save' your changes.

Below is an example of daily backup being disabled.

### RELATED TOPICS
- Alternative Backup Strategy
- User Submitted Backup & Restore Scripts
- Configuring Daily Backups
- Changing time of Daily Backup
- Backup FAQ
- Manually Backing Up The Site
- Site Backup and Restore

**User Submitted Backup & Restore Scripts**

These scripts are user-submitted and should be used with caution as they are not covered by Atlassian technical support. If you have questions on how to use or modify these scripts, please post them to the Confluence user forum. Feel free to submit new scripts or post updates by logging in and adding them to the page as a comment.

**Delete Old Backups - Wscript Script On Windows**

This script examines backup filename and deletes them if necessary, it may need to be edited.
Delete Old Backups - Basic Bash Script For Linux

Old XML backups can be deleted automatically by inserting a nightly or weekly automation script or cron similar to the following:

```
ls -t <path to your backup dir>* | tail -n +6 | xargs -i rm {}
```

Or, using the older form of the `tail` command if your system does not support the standard form:

```
ls -t <path to your backup dir>* | tail +6 | xargs -i rm {}
```

Delete Old Backups - Advanced Bash Script For Linux

Old XML backups can be deleted automatically by inserting a nightly or weekly automation script or cron similar to the following. Set the `BACKUP_DIR` and `DAYS_TO_RETAIN` variables to appropriate values for your site. Between runs, more files than `DAYS_TO_RETAIN` builds up.

```
#!/bin/sh
# Script to remove the older Confluence backup files.
# Currently we retain at least the last two weeks worth
# of backup files in order to restore if needed.
BACKUP_DIR="/data/web/confluence/backups"
DAYS_TO_RETAIN=14
find $BACKUP_DIR -maxdepth 1 -type f -ctime +$DAYS_TO_RETAIN -delete
```

Manual Database & Home Backup - Bash Script For Linux

This backs up a mySQL database and the Confluence home directory.

```
#!/bin/bash
CNFL="/var/confluence
CNFL_BACKUP="/backup/cnflBackup/`date +%Y%m%d-%H%M%S`
rm -rf $CNFL/temp/*
mkdir $CNFL_BACKUP
mysqldump -uroot -p<password> confluence | gzip > $CNFL_BACKUP/confluence.mysql.data.gz
tar -cjvf $CNFL_BACKUP/data.bzip $CNFL > $CNFL_BACKUP/homedir.status
```

Backup by Date - Postgres

```
# If you want 3 day old files to be deleted then insert 3 next to Date - "your number here"
# This script will search out and delete files with this string in them ".2005-12-04-" This of
# course depends on the number you enter.
# You can always do a wscript.echo strYesterday or strFileName to see what the script thinks you
# are searching for.

dtmYesterday = Date - 3
strYear = Year(dtmYesterday)
strMonth = Month(dtmYesterday)
If Len(strMonth) = 1 Then
    strMonth = "0" & strMonth
End If
strDay = Day(dtmYesterday)
If Len(strDay) = 1 Then
    strDay = "0" & strDay
End If
strYesterday = strYear & "-" & strMonth & "-" & strDay
strFileName = "C:test*." & strYesterday & "-*"
Set objFSO = CreateObject("Scripting.FileSystemObject")
objFSO.DeleteFile(strFileName)
```
Migrating Confluence Between Servers

Some customers have experienced problems with Confluence’s search functions after performing a migration, or that the content of their \{recently-updated\} macro is not being updated correctly. Errors in the atlassian-confluence.log file corroborate such problems. Hence, to avoid these issues, it is strongly recommended that you perform a rebuild of your content indices after performing a migration.

How to Create a Test or Development Instance

Development licenses are available for any Commercial or Academic license. Create one or contact us for help.

Administrators may need to move a Confluence instance from one server to another for upgrades or downtime. This page tells you how to copy a Confluence instance from one server to another. For example, you may want to transfer your current production snapshot to a test server as permitted in the licence agreement.

Avoid upgrades while transferring
If you are planning to switch databases, application servers or Confluence versions, perform the transfer and test that it is successful separately to any other changes.

Transferring Confluence To Another Server Using The Same Operating System

If the operating systems on both servers are the same, then the home and install folders can be copied straight into an identical external database and user management setup.

1. On the original server, create zips of the Confluence install and home directories. Copy the zips to the new server.

2. On the new server, unzip the install and home directories. Windows users should avoid unzipping with the Windows built-in extractor, instead use Winzip or the free 7Zip.

   
   If you are changing the location of the home directory, open the Confluence install/confluence/WEB-INF/classes directory and edit confluence-init.properties by changing the line starting with ‘confluence.home=’.

3. Modify the location of your war file if need be. If using Tomcat, this is likely in /Conf/Catalina/localhost. You’ll want to make sure the docbase attribute is pointing to the right location.

4. This next step is dependent on your database:

   a. For users of the internal database, the content is stored inside the home directory. You should switch to an external database after the transfer is successful.
      i. For databases stored on another server: change the user account or datasource permissions so that the new server has the same network access permissions as the original. Then confirm from the new server that the hostname can be resolved and is listening for database connections on the expected port.
      ii. For external databases stored locally: on the original server, create a manual database backup using a native db dump backup tool. Copy the database backup to the new server.
   b. On the new server, install or upgrade the database version to match the original server.
   c. Import the database backup.
   d. Add a database user account with the same username and password as the original.
   e. Provide the user with the full access to the imported database.
   f. Use a database administration tool to confirm that the user can login from the localhost.
   g. To modify any database connection information, go to the Confluence home directory and edit confluence.cfg.xml. The connection URL is set under hibernate.connection.url. Ensure it does not point to your production database server.
   h. If you are using internal user management, skip this step. For users who have JIRA or LDAP integration, provide the new server with network or local access to the same hosts as the original. If this is a true test instance, set up a test of your JIRA

```bash
export d=`date +%u`
mkdir -p /home/backup/postgres/$d
sudo -u postgres pg_dumpall | bzip2 > /home/backup/postgres/$d/sql.bz2
```
Confluence 3.0 Documentation

If you are using the Alternate backup strategy, follow these steps:

1. If you are changing the location of the home directory, open the Confluence install/confluence/WEB-INF/classes directory and edit confluence-init.properties by changing the line starting with "confluence.home=".
2. Copy the database backup to the new server.
3. On the new server, install or upgrade the database version to match the original server.
4. For external databases stored locally, on the original server, create a manual database backup using a native db dump backup tool.
5. Enable space-level mail archiving by running the following database query:

```
SELECT * FROM BANDANA WHERE BANDANAKEY = 'atlassian.confluence.smtp.mail.accounts';
```

6. Import the database backup.
7. Add a database user account with the same username and password as the original.
8. Provide the user with the full access to the imported database.
9. To modify any database connection information, go to the Confluence home directory and edit confluence.cfg.xml. The connection URL is set under hibernate.connection.url. Ensure it does not point to your production database server.
10. Start Confluence.
11. If you configured Confluence as a Windows service, repeat those instructions.

For XML backups (only for small to medium sized installations)

If you're not yet using the Alternate backup strategy, you can do this with your regular XML backup. Create a backup and import into the new server.

1. Create a backup from Confluence:
   a. Go to the Confluence 'Administration Console'. To do this:
      * Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
   b. Select 'Backup & Restore'.
   c. Check the 'Backup Attachments' option and select 'Backup'.

2. Go to Administration > License Details and add your development license key. You can generate one at http://my.atlassian.com. There are more details in Getting a License for a Staging Environment.
3. If you configured Confluence as a Windows service, repeat those instructions.
4. Add your development license key.

Ensuring no contact with production systems

To ensure no contact with external systems, you will need to disable both inbound and outbound mail services.

1. Disable global outbound mail by running the following database query:

```
SELECT * FROM BANDANA WHERE BANDANAKEY = 'atlassian.confluence.smtp.mail.accounts';
```

2. Disable space-level mail archiving by running the following database query:

```sql
SELECT * FROM BANDANA WHERE BANDANAKEY = 'atlassian.confluence.smtp.mail.accounts';
```
2. Change the ‘SELECT *’ to a ‘DELETE’ in the above queries once you are sure you want to remove the specified accounts.

Once this is done, you can start your test instance without any mails being sent or retrieved. Think carefully about other plugins which may access production systems (SQL macro, JIRA macro, etc.). If they write content, or create unwanted load on external systems, they should be disabled promptly after starting the test instance.

**Merging instances**

If you wish to merge two instances, you can consider using the remote import plugin. This plugin is currently unsupported. The supported method would be to export a space and then import spaces one by one. The two instances must be the same version.

**Rebuilding the Ancestor Table**

In Confluence, the ancestor table controls the breadcrumb navigation at the top of each Confluence page. Occasionally, the ancestor table will become out of sync. When this happens, you can rebuild the table to restore everything to normal.

Simply access this URL:

http://yoursite/admin/permissions/pagepermsadmin.action

**Screenshot: Page Level Permissions**

**Dashboard > Administration > Page Level Permissions**

**Configuration**

- General Configuration
- Daily Backup Admin
- Manage Referrers
- Plugins

**Rebuild Ancestor Table**

**RELATED TOPICS**

- Administrators Guide Home
- Confluence Documentation Home

**Restoring a Site**

**CAUTION:** Restoring a backup of an entire confluence site (consisting of multiple spaces) will:

- Wipe out all Confluence content in the database. Ensure that your database is backed up.
- Log you out after the restore process. Make sure you know your login details contained in the data being restored.

**Atlassian suggests establishing a backup strategy using a native database tool for a production instance of Confluence.**

Confluence supports *backward compatibility* for site backups. (But *not* for space backups). You can only successfully restore backups of a site from an older version of Confluence to a newer version of Confluence. For example, if you create a site backup in Confluence 2.4.3, it cannot be restored into a Confluence 2.2.2 instance. It can however, be restored into 2.4.5 or 2.5.x, because 2.4.5 and 2.5.x are newer versions of Confluence.
There are two ways to restore a site from a backup file:

1. **Restore a site from the Confluence Setup Wizard:** This restores the data into a new instance of Confluence.
2. **Restore a site from the Administration Console:** This restores data into the current instance of Confluence.

If your daily backup zips cannot be restored for whatever reason, but you have backups of both your database and your Confluence home directory, then it is still possible to **restore from these backups.**

⚠️ **Selective space restore not possible**

You cannot select a single space to restore from the entire site backup when the backup contains more than one space.

---

**RELATED TOPICS**

- Restoring Data from the Administration Console
- Restoring from Backup During Setup
- Restoring a Site
- Restoring a Space
- Manually Backing Up The Site
- Confluence Docs 3.0

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**Administrators Guide Home**  **Confluence Documentation Home**

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**Restoring a Space**

This page tells you how to import the contents of a Confluence space into another Confluence site, via an XML backup file.

You can export the content of a space, including pages, comments and attachments. The process involves converting the data in the space into XML format. The end product is a zip file that contains XML file(s) and optionally, all the attachments in the space. To transfer this data to another Confluence site, you simply restore this zip file as described below.

Confluence will only allow you to restore a space if there is not already a space by that name on the site. If you already have a space with the identical name, you will need to delete or rename the existing space before restoring the new one.

⚠️ **Cannot restore to a different major Confluence release**

Confluence only supports forward compatibility and backward compatibility for individual space import and export when executed within the same major version of Confluence instances.

**Restoration Data Must Share the Same Major Version Number**

This means that a space export created in a newer major version of Confluence cannot be imported into an older major version of Confluence. For example, if you create a space export in Confluence 2.4.5, it cannot be imported into a Confluence 2.2.2 instance. It can be however imported into 2.4.6, (because 2.2.2 and 2.4.5 are two different 'major' versions). Similarly, a space export created in 2.2.2 can not be imported into 2.4.5. However, it can be restored in 2.2.10 (since 2.2.2 and 2.2.10 belong to the same major version release).

If such an operation is carried out, an error message similar to the one below will be displayed and the import action will be stopped.

**Screenshot: Major Version Clash on Space Restore**

The following error(s) occurred:

- Restore denied. You can only restore space backups exported from the same major version (e.g. 2.2.x or 2.4.x).

You'll need to set up a test server of the same version and import the space, then upgrade your test installation so it's the right major version so that you can perform the export and import successfully. Otherwise, you can try to Change the version of the space export, but please try this on a test instance as well.

⚠️ You need to have System Administrator permissions in order to perform this function.

To restore a space,
1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Backup and Restore' in the 'Administration' section of the left-hand panel.

You can restore data in one of two ways:

1. **Upload a zipped backup to Confluence:**
   - Browse for the backup file.
   - Uncheck 'Build Index' if you want to create the index at a later stage.
   - Click 'Upload and Restore'.

2. **Restore a backup from the file system:**
   - Select the backup file from the form field displayed. If you do not see your backup file, make sure that it has been copied into the
     /opt/java/src/confluence/deployments/conf.atlassian.com/home/restore directory.
   - Uncheck 'Build Index' if you want to create the index at a later stage.
   - Click 'Restore'.

### Workaround for restoring Spaces between Major Releases

As described in the warning above, you cannot restore a space directly between two major versions, i.e. an individual space backup from 2.2.x cannot be imported into a 2.3.x.

Whilst there is presently no functionality in Confluence that allows you to do so, there is however a manual workaround to this problem.

⚠️ **Always back up your data** before attempting this procedure.

Please follow the procedure below:

1. Create a manual site backup
2. Configure a separate installation of the Confluence version you want the space export for i.e. the version into which you want to export the space.
3. Use one of the two restoration methods listed here to import the site backup.
4. After restoring the site backup, create the XML backup for the space you want.
5. Import this backup into your main Confluence instance and you now have that space.

### Alternative workaround

Another way is to change the version of a space backup.

### RELATED TOPICS

- Restoring Data from the Administration Console
- Restoring from Backup During Setup
- Restoring a Site
- Restoring a Space
- Manually Backing Up The Site
- Confluence Docs 3.0

### Changing the version of a space backup

Confluence prevents the import of space backups which aren't from the same major version. The reason for this is that any schema change between the export and imported version of Confluence will cause the import to fail, leaving you with an incomplete import. Even worse, the failure can be database-dependent, so it may work fine on one particular database but your backup will fail to import later.

⚠️ **Do not import a modified space backup on a production server. Import the modified space backup on a test server, then export from the test server to create a pristine space backup for the new version.**

To change the version of a space backup, do the following:

- extract the space backup ZIP file
- edit exportDescriptor.properties in a text editor
1. change the buildNumber to the buildNumber of the Confluence version you wish to import into
2. zip up the modified contents of the backup into a ZIP file again.

This will allow you to import a backup into a test instance of Confluence. After checking the imported space for errors, export it cleanly from the test server and import the fresh backup into your production server.

If your import fails on the test server due to Hibernate errors, this indicates a schema incompatibility and cannot be worked around. You will need to restore your entire site on an old version of Confluence, and export the space from there. See the last section of Restoring a Space for details.

**Restoring a Test Instance from Production**

Many Confluence administrators will have a production instance running the "live" version of Confluence, as well as a test instance for testing upgrades and so on. In this situation, it's quite common that the two instances are running different versions of Confluence. This document describes how to copy the data from a production instance to a test instance, where the production version may be different to the test version.

Before proceeding with this guide, ensure you have read and understood the normal procedure for upgrading Confluence.

**Upgrading a test Confluence instance with production data**

Essentially, we are copying both the production home directory and database to the test instance. We then update the database details on the test instance to point to the test database, leaving all other instance metadata (most importantly the Confluence build number) the same as production.

1. Shut down your test instance.
2. Restore the production database to the test database server.
3. Create a backup of the confluence.cfg.xml file found in the home directory of the test instance.
4. Copy the production confluence-home directory to the test application server.
5. Open the confluence.cfg.xml which has been copied in a text editor. Change the database settings to match the test database server. **Ensure you do not point to your production database.** (You can compare with the backup you made in Step 3 if you need to get the database settings. Don't just copy this file – you need the build number unchanged from production to indicate the database is from an older version of Confluence.)

Before starting your test instance, you need to do the following steps to ensure no contact with production systems.

**Ensuring no contact with production systems**

To ensure no contact with external systems, you will need to disable both inbound and outbound mail services.

1. Disable global outbound mail by running the following database query:

   ```sql
   SELECT * FROM BANDANA WHERE BANDANKEY = 'atlassian.confluence.smtp.mail.accounts';
   ```

2. Disable space-level mail archiving by running the following database query:

   ```sql
   SELECT * FROM BANDANA WHERE BANDANKEY = 'atlassian.confluence.space.mailaccounts';
   ```

Change the 'SELECT *' to a 'DELETE' in the above queries once you are sure you want to remove the specified accounts.

Once this is done, you can start your test instance without any mails being sent or retrieved. Think carefully about other plugins which may access production systems (SQL macro, etc.). These should be disabled promptly after starting the test instance.

You can create a developer license for this server and update the License Details after starting up.

**See also**

Upgrading Confluence
Migrating Confluence Between Servers
Restoring to a Test Instance of Confluence from Production

**Restoring Data from other Backups**

Typically, Confluence data is restored from the Administration Console or from the Confluence Setup Wizard.

If you are experiencing problems restoring from an zipped XML backup file, it is still possible to restore provided you have:

1. A backup of your home directory.
2. A backup of your database (if you're using an external database).

Instructions for this method of restoring differ depending on whether you are using the embedded database or an external database (like Oracle, MS SQL Server, MySQL or Postgres).
## Embedded Database

If you are running against the embedded database, the database is located inside the `database` folder of your Confluence Home Directory. Hence, all you need to do is:

1. Retrieve the most recent backup of your home directory.
2. Unpack the Confluence distribution and point the `confluence-init.properties` file to this directory.

## External Database

If you’re using an external database, you need to do the following.

1. Prepare backups of your home directory and database (preferably backups that are dated the same). That is, make sure the home directory is accessible on the filesystem and the database available to be connected to.
2. If this database happens to have a different name, or is on a different server, you need to modify the jdbc url in the `confluence.cfg.xml` file inside the Confluence Home Directory. The value of this property is specified as `hibernate.connection.url`.
3. Unpack the Confluence distribution and point the `confluence-init.properties` file to the home directory.

### RELATED TOPICS

**Important Directories and Files**

**Migrating to a Different Database**

---

## Restoring Data from the Administration Console

Use this option if you want to restore data into your current instance of Confluence. If you want to restore data into a new instance, follow the instructions here.

You need to have **System Administrator** permissions in order to perform this function.

**CAUTION:** Restoring a backup of an entire Confluence site (consisting of multiple spaces) will do the following:

- Wipe out all Confluence content in the database. Ensure that your database is backed up.
- Log you out after the restore process. Make sure you know your login details contained in the data being restored.

To restore data from backup,

- Go to the Confluence 'Administration Console'. To do this:
  - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
  - Select 'Backup and Restore' in the 'Administration' section of the left-hand panel.

You can restore data in one of two ways:

1. **Upload a zipped backup to Confluence:**
   - Browse for the backup file.
   - Uncheck 'Build Index' if you want to create the index at a later stage.
   - Click 'Upload and Restore'.

2. **Restore a backup from the file system:**
   - Select the backup file from the form field displayed. If you do not see your backup file, make sure that it has been copied into the `/opt/java/src/confluence/deployments/conf.atlassian.com/home/restore` directory.
   - Uncheck 'Build Index' if you want to create the index at a later stage.
   - Click 'Restore'.

### RELATED TOPICS

- Restoring Data from the Administration Console
- Restoring from Backup During Setup
- Restoring a Site
- Restoring a Space
Retrieve file attachments from a backup

File attachments on pages can be retrieved from a backup without needing to import the the backup into Confluence. This is useful for recovering attachments that have been deleted by users.

Both daily and manual backups allow this, as long as the ‘Include attachments’ property was set. Users wanting to restore pages, spaces or sites should check out the Administrators Guide instead.

Before following the instructions for recovering attachments, please review how backups store file and page information.

How Backups Store File and Page Information

The backup zip file contains entities.xml, an XML file containing the Confluence content, and a directory for storing attachments.

Backup Zip File Structure

Page attachments are stored under the attachments directory by page and attachment id. Here is an example listing:

```
Listing for test-2006033012_00_00.zip
  \attachments\98\10001
  \attachments\98\10002
  \attachments\99\10001
  entities.xml
```

Inside the attachment directory, each numbered directory inside is one page, and the numbered file inside is one attachment. The directory number is the page id, and the file number is the attachment id. For example, the file ‘attachments\98\10001’ is an attachment with page id 98 and attachment id 10001. You can read entities.xml to link those numbers to the original filename. Entities.xml also links each page id to the page title.

Entities.xml Attachment Object

Inside the entities.xml is an Attachment object written in XML. In this example, the page id is 98, the attachment id is 10001 and the filename is myimportantfile.doc. The rest of the XML can be ignored:

```
<object class="Attachment" package="com.atlassian.confluence.pages">
  <id name="id">98</id>
  <property name="fileName">myimportantfile.doc</property>
  <property name="content" class="Page" package="com.atlassian.confluence.pages"><id name="id">10001</id></property>
</object>
```

Entities.xml Page Object

This XML describes a page. In this example, the page id is 98 and the title is Editing Your Files. The rest of the XML can be ignored:

```
<object class="Page" package="com.atlassian.confluence.pages">
  <id name="id">98</id>
  <property name="title">Editing Your Files</property>
</object>
```

Instructions for Recovering Attachments

Each file must be individually renamed and re-uploaded back into Confluence by following the instructions below. Choose one of the three methods:

Choice A - Recover Attachments By Filename

Best if you know each filename you need to restore, especially if you want just a few files:
1. Unzip the backup directory and open entities.xml.
2. Search entities.xml for the filename and find the attachment object with that filename. Locate its page and attachment id.
3. Using the page and attachment id from entities.xml, go to the attachments directory and open that directory with that page id. Locate the file with the attachment id.
4. Rename the file to the original filename and test it.
5. Repeat for each file.
6. To import each file back into Confluence, upload to the original page by attaching the file from within Confluence.

**Choice B - Restore Files By Page**

Best if you only want to restore attachments for certain pages:

1. Unzip the backup directory and open entities.xml.
2. Search entities.xml for the page title and find the page object with that title. Locate its page id.
3. Go to the attachments directory and open that directory with that page id. Each of the files in the directory is an attachment that must be renamed.
4. Search entities.xml for attachment objects with that page id. Every attachment object for the page will have an attachment id and filename.
5. Rename the file with that attachment id to the original filename and test it.
6. Repeat for each page.
7. To import each file back into Confluence, upload to the original page by attaching the file from within Confluence.

**Choice C - Restore All Files**

Best if you have a small backup but want to restore many or all the attachments inside:

Following process is applicable to space export only. Site xml backups do not require page id to be updated manually due to the nature of persistent page_id’s.

1. Unzip the backup directory and open entities.xml.
2. Go to the attachments directory and open any directory. The directory name is a page id. Each of the files in the directory is an attachment that must be renamed.
3. Search entities.xml for attachment objects with that page id. When one is found, locate the attachment id and filename.
4. Rename the file with that attachment id to the original filename and test it.
5. Find the next attachment id and rename it. Repeat for each file in the directory.
6. Once all files in the current directory are renamed to their original filenames, search entities.xml for the page id, eg directory name. Find the page object with that page id and locate its page title.
7. Rename the directory to the page title and move on to the next directory. Repeat for each un-renamed directory in the attachments directory.
8. To import each file back into Confluence, upload to the original page by attaching the file from within Confluence.

To obtain detailed information about lost attachments, location, name and type of the attachments, you may use the findattachments script.

**Troubleshooting failed XML site backups**

XML site backups are only necessary for migrating to a new database. Setting up a test server or Establishing a reliable backup strategy is better done with an SQL dump.

Seeing an error when creating or importing a backup?

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exception while creating backup</td>
<td>Follow instructions below</td>
</tr>
<tr>
<td>Exception while importing backup</td>
<td>Follow Troubleshooting XML backups that fail on restore instead</td>
</tr>
</tbody>
</table>

**Resolve Errors With Creating An XML Backup**

The errors may be caused by a slightly corrupt database. If you’re seeing errors such as ‘Couldn’t backup database data’ in your logs, this guide will help you correct the error on your own. We strongly recommend that you backup your database and your Confluence home directory beforehand, so that you can restore your site from those if required. If you are unfamiliar with SQL, we suggest you contact your database administrator for assistance.

**Preferable solution**
The **alternative backup strategy** is a very reliable and often more efficient way to do backups. If you are running into problems with XML backups - whether memory related or because of problems like the one described here - consider using a native backup tool as an alternate solution.

**To Identify And Correct The Problem**

To work out where the data corruption or problems are, increase the status information reported during backup, then edit the invalid database entry:

1. Stop Confluence.
2. If you have an external database, use a database administration tool to create a manual database backup.
3. Backup your Confluence home directory. You will be able to restore your whole site using this and the database backup.
4. Open the `my_confluence_install/confluence/WEB-INF/classes/log4j.properties` and add this to the bottom and save:

   ```
   log4j.logger.com.atlassian.confluence.importexport.impl.XMLDatabinder=DEBUG, confluencelog
   log4j.additivity.com.atlassian.confluence.importexport.impl.XMLDatabinder=false
   ```

5. Find your `atlassian-confluence.log`. Move or delete all existing Confluence logs to make it easier to find the relevant logging output.
6. Restart Confluence and login.
7. Begin a backup so that the error reoccurs.
8. You must now check your log files to find out what object could not be converted into XML format. Open `my_confluence_install/logs/catalina.out`. Scroll to the bottom of the file.
9. Do a search for 'ObjectNotFoundException'. You should see an error similar to this:

   ```
   01 2005-08-24 00:00:33,743 DEBUG [DOCPRIV2:confluence.importexport.impl.XMLDatabinder] Writing object: com.atlassian.confluence.core.ContentPermission with ID: 5 to XML.
   02 2005-08-24 00:00:33,743 DEBUG [DOCPRIV2:confluence.importexport.impl.XMLDatabinder] Writing property: type
   03 2005-08-24 00:00:33,743 DEBUG [DOCPRIV2:confluence.importexport.impl.XMLDatabinder] Writing property: group
   04 2005-08-24 00:00:33,743 DEBUG [DOCPRIV2:confluence.importexport.impl.XMLDatabinder] Writing property: expiry
   05 2005-08-24 00:00:33,743 DEBUG [DOCPRIV2:confluence.importexport.impl.XMLDatabinder] Writing property: content
   06 [DOCPRIV2:ERROR] LazyInitializer - Exception initializing proxy <net.sf.hibernate.ObjectNotFoundException: No row with the given identifier exists: 2535, of class: com.atlassian.confluence.core.ContentEntityObject>
   ```

   Using a database administrative tool, login ot the Confluence database. Locate the row in the relevant table and correct the entry.
   Check other rows in the table for the default column value, which may be null, 0 or blank. Overwrite the invalid row value with the default.
11. Attempt the backup again. If the backup fails and you are stuck, please **lodge a support request** with your latest logs.
**Troubleshooting “Duplicate Key” related problems**

If you are encountering an error message such as:

```
could not insert: [bucket.user.propertyset.BucketPropertysetItem@70067d3
SQL [; Violation of PRIMARY KEY constraint ‘PK_OS_PROPERTYENTRY314D4EA8’. Cannot insert duplicate key in object 'OS_PROPERTYENTRY'].; nested exception is java.sql.SQLException: Violation of PRIMARY KEY constraint 'PKOS_PROPERTYENTRY_314D4EA8'. Cannot insert duplicate key in object 'OS_PROPERTYENTRY'.
```

this indicates that the Primary Key constraint 'PK_OS_PROPERTYENTRY_314D4EA8' has duplicate entries in table 'OS_PROPERTYENTRY'.

You can locate the constraint key referring to 'PK_OS_PROPERTYENTRY_314D4EA8' in your table 'OS_PROPERTYENTRY' and locate any duplicate values in it and remove them, to ensure the “PRIMARY KEY” remains unique. An example query to list duplicate entries in the 'OS_PROPERTYENTRY' table is:

```
SELECT ENTITY_NAME,ENTITY_ID,ENTITY_KEY,COUNT(*) FROM OS_PROPERTYENTRY GROUP BY ENTITY_NAME,ENTITY_ID,ENTITY_KEY HAVING COUNT(*)>1
```

**To Help Prevent This Issue From Reoccurring**

1. If you are using the embedded database, be aware that it is bundled for evaluation purposes and does not offer full transactional integrity in the event of sudden power loss, which is why an external database is recommended for production use. You should migrate to an external database.
2. If you are using an older version of Confluence than the latest, you should consider upgrading at this point.

**RELATED TOPICS**

- Enabling detailed SQL logging
- Troubleshooting XML backups that fail on restore
- XML site backups are only necessary for migrating to a new database. Upgrading Confluence, Setting up a test server or Establishing a reliable backup strategy is better done with an SQL dump.
- If migrating from HSQLDB to MySQL, you might have a better experience using the MySQL Migration Toolkit.

Seeing an error when creating or importing a site or space backup?

<table>
<thead>
<tr>
<th>Problem</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Exception while creating backup</td>
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<tr>
<td>Exception while importing backup</td>
<td>Follow instructions below</td>
</tr>
</tbody>
</table>

**Resolve Errors When Attempting To Restore An XML Backup**

The errors may be caused by a slightly corrupt database. You will need to find the XML backup file entry that is violating the DB rules, modify the entry and recreate the XML backup:

1. On the instance being restored, follow the instructions to disable batched updates (for simpler debugging), log SQL queries and log SQL queries with parameters at Enabling detailed SQL logging.
2. Once all three changes have been made, restart Confluence.
3. Attempt another restore.
4. Once the restore fails, check your log files to find out what object could not be converted into XML format. For Confluence Standalone users, check your Confluence install directory under the /logs/ and check both atlassian-confluence.log and catalina.out file. The correct file will contain SQL debug output.
5. Scroll to the bottom of the file and identify the last error relating to a violation of the database constraint. For example:
This example indicates a row in your attachment table with ID = 38 that has a null title.

6. Go to the server that the backup was created on. You must have a copy of the database from which the backup was created. If you do not have this, use a DBA tool to restore a manual backup of the database.

7. Open a DBA tool and connect to the original database instance and scan the table names in the schema. You will have to modify a row in one of these tables.

8. To work out which table, open catalina.out, check the first line of the exception. To work out what table an object maps to in the database, here's a rough guide:
   - Pages, blogposts, comments --> CONTENT table.
   - attachments --> ATTACHMENTS table.

9. To correct the example error, go to the attachment table and find that attachment object with id 38. This will have a a null title. Give a title using the other attachments titles as a guide. You may have a different error and should modify the database accordingly.

10. Once the entry has been corrected, create the XML backup again.

11. Import the backup into the new version.

12. If the import succeeds, revert the changes made in your SQL logging to re-enable disable batched updates and turn off log SQL queries and log SQL queries with parameters.


Troubleshooting "Duplicate Key" related problems

If you are encountering an error message such as:

```java
could not insert: [bucket.user.propertyset.BucketPropertySetItem@bucket.user.propertyset.BucketPropertySetItem@a70067d3]
SQL []: Violation of PRIMARY KEY constraint 'PK_OS_PROPERTYENTRY314D4EA8'. Cannot insert duplicate key in object 'OS_PROPERTYENTRY'; nested exception is sql.SQLException: Violation of PRIMARY KEY constraint 'PKOS_PROPERTYENTRY_314D4EA8'. Cannot insert duplicate key in object 'OS_PROPERTYENTRY'.
```

This indicates that the Primary Key constraint 'PK_OS_PROPERTYENTRY_314D4EA8' has duplicate entries in table 'OSPROPERTYENTRY'.

You can locate the constraint key referring to 'PK_OS_PROPERTYENTRY_314D4EA8' in your table 'OS_PROPERTYENTRY' and locate any duplicate values in it and remove them, to ensure the "PRIMARY KEY" remains unique. An example query to list duplicate entries in the 'OS_PROPERTYENTRY' table is:

```sql
SELECT ENTITY_NAME,ENTITY_ID,ENTITY_KEY,COUNT(*) FROM OS_PROPERTYENTRY GROUP BY ENTITY_NAME,ENTITY_ID,ENTITY_KEY HAVING COUNT(*)>1
```

Troubleshooting "net.sf.hibernate.PropertyValueException: not-null" related problems

If you're receiving a message like:

```java
ERROR [Importing data task] [confluence.importexport.impl.ReverseDatabinder] endElement net.sf.hibernate.PropertyValueException: not-null property references a null or transient value: com.atlassian.user.impl.hibernate.DefaultHibernateUser.name
```

This means there's an unexpected null value in a table. In the above example, the error is in the name column in the USERS table. We've also seen them in the ATTACHMENTS table.

Remove the row with the null value, redo the xml export, and reimport.

To Help Prevent this Issue from Recurring

1. If you are using the embedded database, be aware that it is bundled for evaluation purposes and does not offer full transactional integrity in the event of sudden power loss, which is why an external database is recommended for production use. You should migrate to an external database.

2. If you are using an older version of Confluence than the latest, you should consider upgrading at this point.
The problem with different settings for case sensitivity varies between databases. The case sensitivity of the database is usually set through the collation that it uses. Please vote on the existing issue.

**RELATED TOPICS**

Troubleshooting failed XML site backups
Administrators Guide

**Migrating from HSQLDB to MySQL**

If you’ve gone through Migrate to Another Database and cannot migrate because of a failed xml backup, this page might help.

**Disclaimer**

MySQL Migration Toolkit is released by the makers of MySQL and as such, problems with the software should be directed to them. Atlassian Support does not offer support for the Migration Toolkit, nor do we provide support for this migration path. These instructions are offered for strictly informational purposes, and your mileage may vary.

**Backup Reminder**

Please backup your database and your home folder before attempting this.

**Resources needed:**

- Empty MySQL DB with appropriate credentials to allow creation, deletion, and insertion of tables and rows.
- A Windows machine that can both communicate to the Confluence server and the destination DB.
- MySQL Migration Toolkit
- HSQL Database Engine

**Preparation for migrating to MySQL from HSQLDB**

1. Shutdown Confluence
2. Make a copy of the confluence home folder for backup purposes
3. Install the Migration Toolkit
4. Unzip the hsqldb package.
5. Copy the hsqldb.jar from hsqldb/lib into C:\Program Files\MySQL\MySQL Tools for 5.0\java\lib
6. Start the MySQL Migration Toolkit

**Running the Migration Toolkit**

You should be presented with the following screen.
Choose Direct Migration

Configuration Type

Choose the type of configuration you have set up.

- **Direct Migration**
  MySQL Migration Tool is installed on source or target machine

  Use this configuration if you have installed the MySQL Migration Service on either the source or target machine.

  Please note that if the MySQL Migration Tool is not located on either the source or target machine there will be a huge overhead of network traffic and a major performance loss.

  In that case please use the Three Way Configuration by installing the MySQL Migration Agent on the source or target machines.

Source Database
Database System: Generic JDBC
Class Name: jdbc:hsqldb:file:PATHTODATABASEFOLDER\confluencedb
Username: sa
Password: No password. Leave this field blank

Destination Database

Target Database
Select the destination database.

Target Database Connection
Select a RDBMS from the list of supported systems

Connection Parameters
Target Connection Parameter
Please enter the connection parameters to connect to the database.

Host Name: HOSTNAME
Port: 3306
Username: UNAME
Password: **

Advanced Settings
Connection String: Jobc Connection String
Connecting to Servers

Connecting to Servers
Establishing database connections.

Connection Progress

Tasks to execute:
The following tasks will now be executed. Please monitor the execution progress. Press [Advanced >>] to see the log.

- Connecting to source database system
- Retrieve schema information from source database system
- Test connection to target database system

Execution completed successfully.

You should see the toolkit trying to connect. If you have problems, please click on the advanced options and sql will show you debugging information. Click Advanced to see the log. If you see "Java Heap Space: Out of Memory", you can start the MySQL Migration Toolkit with a -Xmx flag to allocate more memory to the JVM.

After this screen you should come to reverse engineering. Click next.

Source Schemata Selection

You should see 2 databases, INFORMATION_SCHEMA and PUBLIC. Choose PUBLIC.

Source Schemata Selection
Choose the schemata you want to migrate.

Object Type Selection
Migration

In this step the selected object will be migrated.

Object Type Mapping

Click on both sections. For Object Type Mapping, choose Multilanguage. For Migration Method for Type Schema, choose Multilanguage Migration Method for TypeTable, choose Data Consistency/Multilanguage.

Show Details on both sections. For Migration Method for Type Schema, choose Multilanguage. For Migration Method for TypeTable, choose Data Consistency/Multilanguage.

Click Advanced. Check Enabled Detailed Mappings in Next Step.

Detailed Object Mapping

Click to rename the destination database to be the one set aside to migrate to.

From this point on, you should be able to click next all the way through to finish the migration.

Viewing and Editing License Details

The ‘License Details’ page tells you:

- How many users your Confluence instance is licensed to support, and how many are currently registered.
  Note: The number of registered users only includes users who have can use Confluence permission. Deactivated users are not included.
  Click the Refresh button to make sure you see the latest count.
- What type of license you have (e.g. Commercial, Academic, Community).
- How much time remains in your one-year support and upgrades period (for full licenses) or 30-day trial (for trial licenses).
- Your server ID, which:
  - is generated when you install Confluence for the first time
  - exists for the life of the Confluence instance
  - survives an upgrade
  - is held in the database
  - is not bound to a specific license
  - is the same for all servers in a cluster.

To view the details of your Confluence license,
1. Log into Confluence as a user with Confluence Administrator or System Administrator permissions.

2. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
   - Click 'License Details' under the heading 'Administration' in the left-hand panel.

To look up your license details on the Atlassian website, please log in to my.atlassian.com

To update your Confluence license,

1. Log into Confluence as a user with Confluence Administrator or System Administrator permissions.

2. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
   - Click 'License Details' under the heading 'Administration' in the left-hand panel.
   - If you are running a Confluence Cluster, you will need to:
     - Update each server's Confluence license separately.
     - Ensure that the new license has enough nodes to cover all servers that are currently running in your cluster.
     - (To check the number of active servers in your cluster, see the Cluster Administration page.)

   Enter your new license details into the 'License' field and click the 'Save' button.

3. Click 'Save' button.

If you need to downgrade your Confluence license to one which allows fewer users, please make sure first that your new license covers your current user base.

   - View your license details as described above.
   - Verify that the number of users 'signed up currently' is lower than the number allowed by the new license.
   - If you currently have more users signed up than the new license allows, please follow these instructions on removing users from your Confluence site.

RELATED TOPICS

- Viewing and Editing License Details
Viewing System Information

The System Information screen provides information about Confluence’s configuration, and the environment in which Confluence has been deployed. Your system configuration information is helpful to us when diagnosing errors you may face using Confluence. If you file a support request or bug report, the more detail you can provide about your installation and environment the faster we will be able to help.

To view your system information,

1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
2. Click ‘System Configuration’ in the ‘Administration’ section.

   The handy Memory Graph helps you keep track of Confluence’s memory usage.

RELATED TOPICS

- Cache Statistics
- Site Statistics
- Viewing and Editing License Details
- Viewing and Managing Installed Plugins
- Live Monitoring Using the JMX Interface

Live Monitoring Using the JMX Interface

Like the Heisenberg uncertainty principle, adding live monitoring to a production instance may have an impact itself on performance!

With the JMX interface (introduced in Confluence 2.8), you can monitor the status of your Confluence instance in real time. This will provide you with useful data such as the resource usage of your instance and its database latency, allowing you to diagnose problems or performance issues. To read the JMX data, you will need to use a JMX client.

Disable JMX

If you experience any problems during Confluence startup that are related to JMX, it is possible to disable the JMX registration process. Please place jmxContext.xml in your <confluence-install>/confluence/WEB-INF/classes folder to do so.

What is JMX?

JMX (Java Management eXtensions) is a technology for monitoring and managing Java applications. JMX uses objects called MBeans (Managed Beans) to expose data and resources from your application.

1. Enabling JMX Remote with Tomcat

By default, Confluence uses the Apache Tomcat web server. To use JMX, you must enable it on your Tomcat server, by carrying out the
steps under the Apache Tomcat documentation, entitled Enabling JMX Remote. With those steps completed, restart your Tomcat server.

For the stand-alone, add the startup parameter `-Dcom.sun.management.jmxremote` to `setenv.sh` or `setenv.bat`. See instructions for the Windows Service - enter it in the same place as PermGen Memory.

2. Selecting your JMX Client

You need to use a JMX client in order to view the JMX output from Confluence. JConsole is a readily available JMX client that is included with Sun's Java Developer Kit (version 5 onwards). The full name is the 'Java Monitoring and Management Console', but we will refer to it as JConsole for the purposes of this document.

3. Adding the JMX Client to your Path

You must add the location of the JConsole binary file to your ‘path’ environment variable. As JConsole resides in the 'bin' (binaries) folder under your Java directory, the path should resemble something like this:

```
JDK_HOME/bin/
```

In this example, replace 'JDK_HOME' with the full system path to your Java directory.

4. Configuring JConsole

To configure JConsole,

1. Run the JConsole application.
2. You will be prompted to create a new connection. Choose ‘remote process’, enter the hostname of your Confluence instance and a port of your choosing.

To connect easily, add the startup parameters to `setenv.bat` or `setenv.sh`:

- `-Dcom.sun.management.jmxremote`
- `-Dcom.sun.management.jmxremote.port=8086`
- `-Dcom.sun.management.jmxremote.authenticate=false`

Port 8086 is unlikely to be used. Then, connect remotely using port 8086.

3. Click ‘Connect’.

Note: Other JMX clients besides JConsole can read JMX information from Confluence.

What can I monitor with JMX?

The JMX interface allows you to see live internal information from your Confluence instance, via the following MBeans:

**IndexingStatistics**

This MBean shows information related to search indexing.

<table>
<thead>
<tr>
<th>Property name</th>
<th>Function</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flushing</td>
<td>Shows state of cache (i.e. flushing, or not).</td>
<td>True/False</td>
</tr>
<tr>
<td>LastElapsedMilliseconds</td>
<td>Time taken during last indexing.</td>
<td>Milliseconds</td>
</tr>
<tr>
<td>LastElapsedReindexing</td>
<td>Time taken during last re-indexing.</td>
<td>Milliseconds</td>
</tr>
<tr>
<td>TaskQueueLength</td>
<td>Shows number of tasks in the queue.</td>
<td>Integer</td>
</tr>
</tbody>
</table>

**SystemInformation**

This MBean shows information related to database latency. It also contains most of the information presented on the System Information page.

<table>
<thead>
<tr>
<th>Property name</th>
<th>Function</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>DatabaseExampleLatency</td>
<td>Shows the latency of an example query performed against the database.</td>
<td>Milliseconds</td>
</tr>
</tbody>
</table>

**RequestMetrics**
This MBean shows information related to system load and error pages served.

<table>
<thead>
<tr>
<th>Property name</th>
<th>Function</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>AverageExecutionTimeForLastTenRequests</td>
<td>Average execution time for the last ten requests.</td>
<td>Milliseconds</td>
</tr>
<tr>
<td>CurrentNumberOfRequestsBeingServed</td>
<td>Number of requests being served at this instant.</td>
<td>Integer</td>
</tr>
<tr>
<td>ErrorCount</td>
<td>Number of times the Confluence error page was served.</td>
<td>Integer</td>
</tr>
</tbody>
</table>

MailServer-SMTPServer

This MBean shows information related to email dispatch attempts and failures. There will be an MBean for every SMTP Mailserver that has been configured in the Confluence instance.

<table>
<thead>
<tr>
<th>Property name</th>
<th>Function</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>EmailsAttempted</td>
<td>The number of email messages Confluence has tried to send.</td>
<td>Integer</td>
</tr>
<tr>
<td>EmailsSent</td>
<td>The number of email messages sent successfully.</td>
<td>Integer</td>
</tr>
</tbody>
</table>

MailTaskQueue

This MBean shows information related to the email workload.

<table>
<thead>
<tr>
<th>Property name</th>
<th>Function</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>ErrorQueueSize</td>
<td>Number of errors in the queue.</td>
<td>Integer</td>
</tr>
<tr>
<td>Flushing</td>
<td>Shows state (i.e. flushing, or not)</td>
<td>True/False</td>
</tr>
<tr>
<td>FlushStarted</td>
<td>Time that operation began.</td>
<td>Time</td>
</tr>
<tr>
<td>RetryCount</td>
<td>The number of retries that were performed.</td>
<td>Integer</td>
</tr>
<tr>
<td>TaskSize</td>
<td>Number of email messages queued for dispatch.</td>
<td>Integer</td>
</tr>
</tbody>
</table>

SchedulingStatistics

This MBean shows information related to current jobs, scheduled tasks and the time that they were last run.

High CPU consuming threads

For Java 1.6, add the Top Threads Plugin to monitor whether CPU is spiking. Download it to a directory and run JConsole like this: JConsole -pluginpath /pathto/topthreads.jar

This works only with jdk 1.6, but that can be on the remote machine if the server is running a lower version.

RELATED TOPICS

- Viewing System Information
- Cache Statistics
- Viewing and Editing License Details
- Viewing and Managing Installed Plugins

Site Statistics

Understanding Site Statistics

Site Statistics allows you to view a breakdown of pages and editing activity on your Confluence instance.

You can also choose to email your site statistics information to Atlassian, with the 'Mail Statistics' button. This may be useful for troubleshooting purposes, or when requesting Atlassian support. You can also review the data before it is sent (if you are concerned that it may contain sensitive information).

Screenshot: Confluence Site Statistics
Viewing Confluence Site Statistics

To view Confluence Site Statistics,

1. Log into Confluence as a user with Confluence Administrator or System Administrator permissions.
2. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
3. Select 'Site Statistics' under the heading 'Administration' in the left-hand panel.
4. Click 'Load Statistics'. For a large Confluence installation, this may affect the server's performance. For this reason, we suggest you do this at a 'quiet time' for the system.
5. Site Statistics will be displayed.

The Global Statistics Plugin is unsupported.

If the 'Site Statistics' option is not shown, you may have to install the Global Statistics Plugin. In this case, follow the instructions for installing plugins and look for the 'Global Statistics Plugin'.

If you want to view page-view statistics, this is possible with the SQL Plugin. Some examples are available on the Confluence Community Pages. Please note that some plugins are not officially supported by Atlassian.

Configuring Confluence
## Configuring Logging

We recommend that you configure Confluence's logging to your own requirements. You can change the log settings in two ways:

- Configure logging in Confluence Administration – Your changes will be in effect only until you next restart Confluence.
- Edit the properties file – Your changes will take effect next time you start Confluence, and for all subsequent sessions.

Both methods are described below.

**Terminology:** In log4j, a 'logger' is a named entity. Logger names are case-sensitive and they follow a hierarchical naming standard. For example, the logger named `com.foo` is a parent of the logger named `com.foo.Bar`.

### Configure logging in Confluence Administration

You can change some of Confluence's logging behaviour via the Administration Console while Confluence is running. Any changes made in this way will apply only to the currently-running Confluence lifetime. The changes are not written to the `log4j.properties` file and are therefore discarded when you next stop Confluence.

Not all logging behaviour can be changed via the Administration Console. For logging configuration not mentioned below, you will need to stop Confluence and then edit the `log4j.properties` file instead.

The 'Logging and Profiling' screen shows a list of all currently defined loggers. On this screen you can:

- Turn page profiling on or off.
- Turn detailed SQL logging on or off.
- Add a new logger for a class/package name.
- Remove a logger for a class/package name.
- Set the logging level (INFO, WARN, FATAL, ERROR or DEBUG) for each class or package name.
Changing the logging configuration

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Log Profiling' in the 'Administration' section of the left-hand panel. You need to have System Administrator permissions in order to perform this function.
3. The 'Log Profiling' screen appears, as shown below. Use the following guidelines to change the logging behaviour while Confluence is running:
   - 'Performance Profiling' — See Page Request Profiling.
   - 'SQL Logging' — Click the 'Enable SQL Logging' button to log the details of SQL requests made to the database. If you need to enable logging of SQL parameter values, you will need to change the setting in the properties file. This option is not available via the Administration Console.
   - 'Log4j Logging' — Click one of the profile buttons to reset all your loggers to the predefined profiles:
     - 'Production' profile is a fairly standard profile, recommended for normal production conditions.
     - 'Diagnostic' profile gives more information, useful for troubleshooting and debugging. It results in slower performance and fills the log files more quickly.
   - 'Add New Entry' — Type a class or package name into the text box and click the 'Add Entry' button. The new logger will appear in the list of 'Existing Levels' in the lower part of the screen.
   - 'Existing Levels' - These are the loggers currently in action for your Confluence instance.
     - You can change the logging level by selecting a value from the 'New Level' dropdown list. Read the Apache documentation for a definition of each level.
     - Click the 'Remove' link to stop logging for the selected class/package name.
4. Click the 'Save' button to save any changes you have made in the 'Existing Levels' section.

Screenshot: Changing Log Levels and Profiling
Performance Profiling
Profiling is currently OFF.

Enable Profiling

SQL Logging

Enable SQL Logging

Log4j Logging
Choose from one of the predefined logging options or configure logging below.

Production  Diagnostic

OR:

Customise specific logging settings

Add New Entry

<table>
<thead>
<tr>
<th>Class/Package Name</th>
<th>New Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info</td>
<td></td>
</tr>
</tbody>
</table>

Add entry

Existing Levels

<table>
<thead>
<tr>
<th>Class/Package Name</th>
<th>Current Level</th>
<th>New Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>com.atlassian.confluence.cluster                INFO</td>
<td>INFO</td>
<td></td>
</tr>
<tr>
<td>com.atlassian.confluence.cluster.safety          INFO</td>
<td>INFO</td>
<td></td>
</tr>
<tr>
<td>com.atlassian.confluence.importexport.impl.PdfExporter  ERROR</td>
<td>ERROR</td>
<td></td>
</tr>
<tr>
<td>com.atlassian.confluence.lifecycle               INFO</td>
<td>INFO</td>
<td></td>
</tr>
<tr>
<td>com.atlassian.confluence.upgrade               INFO</td>
<td>INFO</td>
<td></td>
</tr>
<tr>
<td>com.atlassian.core.util.FileUtils               ERROR</td>
<td>ERROR</td>
<td></td>
</tr>
<tr>
<td>com.atlassian.upgrade                           INFO</td>
<td>INFO</td>
<td></td>
</tr>
<tr>
<td>net.sf.hibernate.cache.ReadWriteCache          ERROR</td>
<td>ERROR</td>
<td></td>
</tr>
<tr>
<td>net.sf.hibernate.impl.SessionImpl                ERROR</td>
<td>ERROR</td>
<td></td>
</tr>
<tr>
<td>net.sf.hibernate.type.CustomType                ERROR</td>
<td>ERROR</td>
<td></td>
</tr>
<tr>
<td>net.sf.hibernate.util.JDBCExceptionReporter     ERROR</td>
<td>ERROR</td>
<td></td>
</tr>
<tr>
<td>org.apache.fop                               ERROR</td>
<td>ERROR</td>
<td></td>
</tr>
<tr>
<td>root                                         WARN</td>
<td>WARN</td>
<td></td>
</tr>
</tbody>
</table>

Remove

Save

Editing the Properties File
To configure the logging levels and other settings on a permanent basis, you need to stop Confluence and then change the settings in the log4j.properties file, described above.

The properties file contains a number of entries for different loggers that can be uncommented if you are interested in logging from particular components. Read more in the Apache log4j documentation.

See Working with Confluence Logs for some guidelines on specific configuration options you may find useful.

Site Configuration

- Configuring the Server Base URL
- Configuring the Site Homepage
- Configuring the Site Support Address
- Customising Default Space Content
- Editing the Global Logo
- Editing the Site Title
- Editing the Site Welcome Message
- Showing Link Icons
- View Space Goes to Browse Space

Configuring the Server Base URL

The Server Base URL is the URL via which users access Confluence. The base URL must be set to the same URL by which browsers will be viewing your Confluence site.

Confluence will automatically detect the base URL during setup, but you may need to set it manually if your site's URL changes or if you set up Confluence from a different URL to the one that will be used to access it publicly.

You need to have System Administrator permissions in order to perform this function.

To configure the Server Base URL,

1. In Confluence, open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' will open.
2. Click 'General Configuration' in the left-hand panel.
3. Click the 'Edit' button next to 'Site Configuration'.
4. Enter the new URL in the 'Server Base URL' text box.
5. 'Save' your changes.

If you configure a different base URL or if visitors use some other URL to access Confluence, it is possible that you may encounter errors while viewing some pages.

Example

If Confluence is installed to run in a non-root context path (that is, it has a context path), then the server base URL should include this context path. For example, if Confluence is running at http://www.foobar.com/confluence, the server base URL should be http://www.foobar.com/confluence.

RELATED TOPICS

- Editing the Site Title
- View Space Goes to Browse Space
- Editing the Site Welcome Message
- Customising Default Space Content
- Configuring the Site Support Address
- Configuring the Server Base URL
- Configuring the Site Homepage
Configuring the Site Homepage

You can configure Confluence to direct users to any of the space home pages on the site when they log in, rather than to the Dashboard.

**To configure the site-wide home page,**

1. Go to the 'Administration Console' and click 'General Configuration' in the left-hand panel.
2. Click 'Edit' next to the 'Site Configuration' panel.
3. Select a space from the 'Site Homepage' dropdown menu. When users log in, Confluence will open the home page of the space you choose here.
4. Ensure that the 'View Space Goes to Browse Space' option is set to 'Off' if you want users to be sent to the space home page and not the space summary page.
5. Click the 'Save' button at the bottom of the screen.

The spaces available to be set as your home page will depend on the access permissions of the space and the site.

- If your site allows anonymous access, the site home page must also be anonymously accessible.
- The site home page must be accessible to the 'confluence-users' group.

**Screenshot : Configuring the site homepage**

---

**Site Configuration**

Configure the appearance and behaviour of the site as a whole. The most important is the Server Base URL, which must be set to the externally-accessible address of your Confluence site.

<table>
<thead>
<tr>
<th>Site Title:</th>
<th>Confluence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server Base Url:</td>
<td><a href="http://localhost:8080">http://localhost:8080</a></td>
</tr>
<tr>
<td>Site Homepage:</td>
<td>dashboard</td>
</tr>
<tr>
<td>Site Welcome Message:</td>
<td>dashboard ROLL</td>
</tr>
<tr>
<td>View Space Goes to Browse Space:</td>
<td>On, Off</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- Editing the Site Title
- View Space Goes to Browse Space
- Editing the Site Welcome Message
- Customising Default Space Content
- Configuring the Site Support Address
- Configuring the Server Base URL
- Configuring the Site Homepage
- Editing the Global Logo
- Showing Link Icons
Confluence 3.0 Documentation

Configuring the Site Support Address

The Site Support Address is an email address which points to a JIRA instance configured to receive and handle support requests by email. By default, the site support address is set to the Atlassian Support System. In most cases, there is no need to change it.

In order to use the site support address, ensure that SMTP email is set up on your Confluence instance.

To configure the site support address,

1. Go to the Administration Console and click 'General Configuration' in the left-hand panel.
2. Click the 'Edit' button next to 'Site Configuration'.
3. Enter the new 'Site Support Address'.
4. Click the 'Save' button at the bottom of the screen.

RELATED TOPICS

Troubleshooting Problems & Requesting Technical Support
Site Configuration

Customising Default Space Content

Confluence Administrators can define default content for a space home page. This content will appear on the home page whenever someone adds a new space. You can define different content for global spaces and for personal spaces.

The default content will appear only for new spaces created after you have defined the content. Content in existing home pages will not be changed.

To define default content for home pages in global spaces,

1. Go to the 'Administration Console' and click 'Default Space Content' under 'Configuration' in the left-hand panel.
2. The 'Space Home Pages' tab will open on the 'Default Space Content' page. Enter the content which you want to appear on the home page for new global spaces. You can use special characters within the content as variables (place holders). Confluence will replace the curly brackets and digits with the corresponding information as shown below:
   - {0} — The space name.
3. Click the 'Save' button.

To define default content for home pages in personal spaces,

1. Go to the 'Administration Console' and click 'Default Space Content' under 'Configuration' in the left panel.
2. The 'Space Home Pages' tab will open on the 'Default Space Content' page. Click the 'Personal Space Home Pages' tab.
3. Enter the content which you want to appear on the home page for new personal spaces. You can use special characters within the content as variables (place holders). Confluence will replace the curly brackets and digits with the corresponding information as shown below:
   - {0} — The space owner's full name.
   - {1} — The space owner's e-mail address.
   - {2} — Any personal information the space owner has entered on their user profile in the 'Information about me' section.
4. Click the 'Save' button.

You can also undo all customisations of the default home page content, and go back to the default content as originally supplied with Confluence.

To restore the original default content,

1. Go to the 'Administration Console' and click 'Default Space Content' under 'Configuration' in the left panel.
2. Select either the 'Space Home Pages' tab or the 'Personal Space Home Pages' tab, as required.
3. Click the 'Revert' button.
Edited the Global Logo

By default, the global logo appears beside the page title on all pages in the site. You can disable the logo or replace it with one of your own.

To edit the global logo,

1. From the ‘Administration Console’ click on ‘Global logo’ under the heading ‘Look and Feel’ in the left panel.
2. In the screen displayed, select ‘Off’ to disable logo.
3. To upload a new logo, click ‘Browse’ to select a new image and click ‘Upload Logo’.
RELATED TOPICS

- Editing the Site Title
- View Space Goes to Browse Space
- Editing the Site Welcome Message
- Customising Default Space Content
- Configuring the Site Support Address
- Configuring the Server Base URL
- Configuring the Site Homepage
- Editing the Global Logo
- Showing Link Icons

Editing the Site Title

The site title appears in your browser's title bar. By default, it is set to 'Confluence'.

To change the title of your Confluence instance,

1. Go to the 'Administration Console' and click on 'General Configuration' in the left panel.
2. Click 'Edit' at the bottom of the 'Options and Settings' screen.
3. Enter a new title for your site in the input field beside 'Site Title' and 'Save'.

RELATED TOPICS

- Editing the Site Title
- View Space Goes to Browse Space
- Editing the Site Welcome Message
- Customising Default Space Content
- Configuring the Site Support Address
- Configuring the Server Base URL
- Configuring the Site Homepage
- Editing the Global Logo
- Showing Link Icons

Editing the Site Welcome Message

The site welcome message appears on the Dashboard. It can be used to provide users with an introduction to the site, or as a "message of the day".

To edit the site welcome message,
1. Go to the 'Administration Console' and click on 'General Configuration' in the left panel.
2. Click 'Edit' at the top of the 'Site Configuration' section.
3. In the text-entry box beside 'Site Welcome Message' enter your text using regular Confluence markup.
4. 'Save' your changes.

How we use it at Atlassian

Atlassian makes great use of the welcome message feature on our internal Confluence wiki. You can see it here:

The welcome message itself is just an include macro:

```
{include:STAFF:Extranet Homepage}
```

The include macro allows an entire page to be shown in line. This particular page lives in the STAFF space, where anyone can edit it. We usually have some amusing picture, or company-wide notice showing on it. The featured photo generally changes each week – you can see the current (29 June 2009) homepage to the right. The page itself has over 600 edits by many different people.

The page also includes an edit link, for quick access to change the welcome message.

Our homepage wiki markup looks something like this:

```
!Clover Dukey.jpg|width=200!
{nodisplay}
This is the content that goes on the Extranet homepage, above the spaces list.

NOTE: KEEP YOUR PICTURES SMALL (<80KB) -- USE JPG FOR PICTURES, WIDTH 400
{nodisplay}

h4. Experimental blogroll: All posts labelled "extranet-dashboard"
{blog-posts:content=titles|labels=extranet-dashboard|spaces=all|max=10}
If you want to promote a good post to stand out from the white noise, just add the label *extranet-dashboard*. To avoid inflation please use the label carefully.

{float-right}
{edit me}[http://extranet.atlassian.com/pages/editpage.action?pageId=603422736]}
{float-right}
```

RELATED TOPICS

- Editing the Site Title
- View Space Goes to Browse Space
- Editing the Site Welcome Message
- Customising Default Space Content
- Configuring the Site Support Address
- Configuring the Server Base URL
- Configuring the Site Homepage
Showing Link Icons

In order to distinguish external links, user links and email links in wiki content, the Confluence Administrator can configure Confluence to show a small icon in the top right-hand corner of each link.

To show link icons,

1. From the 'Administration Console', click 'General Configuration' under the heading 'Configuration' in the left-hand panel.
2. Click the 'Edit' button next to 'Formatting and International Settings'.
3. Beside 'Show Link Icons', select 'On' to enable the feature. Select 'Off' to disable it.
4. Click 'Save'.

RELATED TOPICS
- Editing the Site Title
- View Space Goes to Browse Space
- Editing the Site Welcome Message
- Customising Default Space Content
- Configuring the Site Support Address
- Configuring the Server Base URL
- Configuring the Site Homepage
- Editing the Global Logo
- Showing Link Icons

View Space Goes to Browse Space

By default, when you click on a space link, you are taken to the space's homepage. If you wish, you can configure Confluence to redirect all space links on the site to the 'Browse Space' view of the space instead.

To direct the space link to the 'browse space' view,

1. Go to the 'Administration Console' click on 'General Configuration' in the left panel.
2. Click 'Edit' at the bottom of the 'Options and Settings' screen.
3. Select 'ON' beside 'View Space goes to Browse Space' and click 'Save'.

RELATED TOPICS
- Editing the Site Title
Confluence allows the configuration of which character encoding is used to deliver pages.

While different character encodings are supported, we strongly recommend that **UTF-8** is used. Confluence is heavily tested on UTF-8, and users are likely to have less problems with this encoding than others.

**Mac Users**

Mac Users please note that **MacRoman** encoding is compatible with UTF-8. You do not need to change your encoding settings if you are already using MacRoman.

To avoid problems with character encoding, make sure the encoding used across the different components of your system are the same:

- Configuring Database Character Encoding
- Application Server URL encoding
- Confluence Character Encoding

If you are having problems with the character encoding in Confluence, please see the [Troubleshooting Character Encodings](#) page.

**Troubleshooting Character Encodings**

Often users may have problems with certain characters in a Confluence instance. Symptoms may include:

- Non-ASCII characters appearing as question marks (?)
- Page links with non-ASCII characters not working
- Single characters being displayed as two characters
- Garbled text appearing

In most cases, it is due to a mis-configuration in one of the components that Confluence uses.

Follow these steps to diagnose the problem:

1. **Run the encoding test**

   Confluence includes an encoding test that can reveal problems with your configuration.

   To perform the test, access the Encoding Test page via the `<confluence base-url>/admin/encodingtest.action` page on your Confluence instance. You will be required to copy and paste a line of text and submit a form. The test will take the text and pass it through Confluence, the application server and the database, and return the results.

   You should also test pasting some sample text (Japanese for example) if you are experiencing problems with a specific language.

   **Example:**

   ```
   http://confluence.atlassian.com/admin/encodingtest.action
   ```

   or
If the text displayed in the encoding test is different to what was entered, then there are problems with your character encoding settings.

A successful test looks like the following:

The encoding test has now been run. Below, you can compare the raw text delivered from Confluence through the database. All the test results should appear identical.

### Test 1: Raw text
This is the test string generated in Confluence.

### Test 2: Form submission
This is the test string pasted by you into the web form and submitted back to Confluence.

### Test 3: Database round-trip (select as LOWER)
This is the string from Test 2 after being stored in the database and then retrieved.

### Test 4: Database round-trip (select as UPPER)
This is the string from Test 2 after being stored in the database and then retrieved.

MySQL 3.x

MySQL 3.x is known to have some problems with the upper- and lower-casing of some characters, and may fail the last two tests. For more information, see MySQL 3.x Character Encoding Problems.

2. Ensure the same encoding is used across all components

As mentioned in the Configuring Encoding document, the same character encoding should be used across the database, application server and web application (Confluence).

- To change the character encoding used in Confluence, see Configuring Character Encoding.
- To change the character encoding used in the application server, please ensure you set the Application Server URL encoding and view your application server's documentation on any other settings required to enable your encoding.
- To change the character encoding used in the database, see Configuring Database Character Encoding.
3. Requesting support

If there are still problems with character encoding after following the above steps, create a support request, and our support staff will aid in solving your problem.

Entering in the following details will help us to identify your problem:

- Attach screenshots of the problem
- Attach the results of the encoding test (above)
- Select which application server (and version) you are using
- Select which database (and version) you are using
- Copy the contents of the System Information page into the 'Description' field

"€" Euro character

The € (euro) symbol is a three byte character, with byte values in file (UTF-8) of 0xE2, 0x82, 0xAC.

Sometimes, if the character encoding is not set consistently among all participating entities of the system, Confluence, server and the database, one may experience strange behaviour.

```
... I write a page with a Euro sign in it (€). All is well, the Euro sign shows up in the wiki markup text-box, and the preview, and the display of the saved page.
One day later, the Euro sign has changed into a question mark upside down!
...
``` 

What is going on? Why does the Euro sign mysteriously change? How do I prevent it?

Interestingly enough the character encoding test passes with no problems, demonstrating that Confluence and the connected Database both recognise the € symbol.

There are two potential reasons for this behaviour:

Database and Confluence is using utf-8 encoding. The connection is not.

When data transferred to it via the connection which does not use utf-8 encoding gets encoded incorrectly. Hence, updating the connection encoding may resolve this problem from now on, yet it probably would not affect already existing data.

Database is not using utf-8. Confluence and your connection are.

If your Database encoding is not set to UTF-8, yet is using some other encoding such as latin1, it could be one of the potential reasons why you lose the "€" characters at some stage. It could be occurring due to caching. When Confluence saves data to the database, it may also keep a local cached copy. If the database encoding is set incorrectly, the Euro character may not be correctly recorded in the database, but Confluence will continue to use its cached copy of that data (which is encoded correctly). The encoding error will only be noticed when the cache expires, and the incorrectly encoded data is fetched from the database.

For instance the latin1 encoding would store and display all 2-byte UTF8 characters correctly except for the euro character which is replaced by '?' before being stored. As Confluence's encoding was set to UTF-8, the 2-byte UTF-8 characters were stored in latin1 database assuming that they were two latin1 different characters, instead of one utf8 character. Nevertheless, this is not the case for 3-byte utf8 characters, such as the Euro symbol.

MySQL 3.x Character Encoding Problems

MySQL 3.x is known to have some problems upper- and lower-casing certain (non-ASCII) characters.

**Diagnosing the problem**

1. Follow the instructions for Troubleshooting Character Encodings.
2. If the upper- and lower-cased strings displayed on the Encoding Test are different, then your database is probably affected.

An example (faulty) output of the Encoding Test is shown below:

**Screenshot: Encoding Test Output**
The encoding test has now been run. Below, you can compare the raw text delivered from Confluence round-trip through the database. All the test results should appear identical.

<table>
<thead>
<tr>
<th>Internåionalisåtion</th>
<th>This image is how all of the test results below should appear on this page, and all of your System Information.</th>
</tr>
</thead>
</table>

**Test 1: Raw text**

This is the test string generated in Confluence

**Internåionalisåtion**

**Test 2: Form submission**

This is the test string pasted by you into the web form and submitted back to Confluence

**Internåionalisåtion**

**Test 3: Database round-trip (select as LOWER)**

This is the string from Test 2 after being stored in the database and then retrieved

**Internåionalisåtion**

Expected result (converting Java string to lowercase)

**Internåionalisåtion**

**Test 4: Database round-trip (select as UPPER)**

This is the string from Test 2 after being stored in the database and then retrieved

**INTERNÅLISÅTION**

Expected result (converting Java string to uppercase)

**INTERNÅLISÅTION**

**Solution**

Upgrade to a newer version of MySQL. (4.1 is confirmed to work.)

**Configuring Mail**

- Configuring a Server for Outgoing Mail
- Enabling the 'Mail Page' plugin
- The Mail Queue
- Customising the eMail Templates

**Administrators Guide Home**  **Confluence Documentation Home**

**Configuring a Server for Outgoing Mail**

Configuring your Confluence server to send outgoing mail allows your Confluence users to:

- Receive Daily Reports.
- Send a page via email.

ℹ️ You need to have System Administrator permissions in order to perform this function.

To configure Confluence Standalone to send outgoing mail,
1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Mail Servers' under 'Configuration' in the left panel. This will list all currently configured SMTP servers.
3. Click 'Add New SMTP Server' (or edit an existing server).
   - **Name**: By default, this is set to 'SMTP Server'.
   - **From**: Enter the email address that will be displayed in the 'from' field for email messages originating from this server.
   - **Subject Prefix**: Enter a subject prefix, if required.
4. Configuring the Host Address, Username and Password:
   - Manually enter your 'Host Address', 'Username' and 'Password' details in the form fields displayed (recommended).
   - **OR**
   - Specify the 'JNDI' location of a mail session configured in your application server in the form field displayed.

**Troubleshooting**

If you experience problems with these configurations, please check that your <Confluence-Install>/confluence/WEB-INF/lib contains only one copy of the following JAR files:

1. activation-x.x.x.jar
2. mail-x.x.x.jar

Ideally, these should be:

- activation-1.0.2.jar
- mail-1.3.2.jar (or later)

You will then need to move these into the proper directory:

**Standalone distribution:** Please move the above three jar files from the <Confluence-Install>/confluence/WEB-INF/lib directory to <confluence-install>/lib (for Confluence version 2.10 onwards) or <Confluence-Install>/common/lib (for earlier product versions) and restart Confluence.

**RELATED TOPICS**

- [Enabling the 'Mail Page' plugin](#)
- [The Mail Queue](#)
- [Configuring a Server for Outgoing Mail](#)

**Enabling the 'Mail Page' plugin**

The 'Mail Page' plugin allows anyone with the 'View' space permission to email a Confluence page.

The 'Mail Page' plugin is disabled by default. This is because, when someone emails a Confluence page, they can select from a list of all Confluence users and groups (note, however, that email addresses are not visible), or even mail the page to arbitrary addresses. If you have enabled anonymous access or self-signup, visitors could potentially use this feature to send spam or nuisance email through your Confluence server.

This plugin only works when the mail server is configured.

- You need to have System Administrator permissions in order to perform this function.
- Confluence versions 2.4 and later come with the 'Mail Page' plugin preinstalled.

**To enable the 'Mail Page' plugin,**
1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Plugins' under 'Configuration' in the left-hand panel.
3. This will list all plugins that are currently installed in your Confluence system. Click 'Mail Page Plugin'.
4. This will display the 'Mail Page Plugin' details. To enable the 'Mail Page' plugin, click 'Enable plugin'.
5. Ensure that both of the following are enabled:
   - 'Mail Page Link' — displays the 'E-mail' link next to the 'Copy' link on the 'Page Info' screen (see 'E-mailing a page')
   - 'mailpageactions' — enables the e-mail operation.

RELATED TOPICS
- Enabling the 'Mail Page' plugin
- The Mail Queue
- Configuring a Server for Outgoing Mail

The Mail Queue

Email messages waiting to be sent out are queued in a mail queue and periodically flushed from Confluence once a minute. A Confluence administrator can also manually flush emails from the mail queue.

If there is an error sending messages, the failed emails are sent to an error queue from which you can either try to resend them or delete them.

To view the mail queue,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Mail Queue' in the left-hand panel. This will display the emails currently in the queue.
3. Click 'Flush Mail Queue' to send all emails immediately.
4. Click 'Error Queue' to view failed email messages. You can try to 'Resend' the messages, which will flush the mails back to the 'Mail Queue' or 'Delete' them from here.

RELATED TOPICS
- Enabling the 'Mail Page' plugin
- The Mail Queue
- Configuring a Server for Outgoing Mail

Optional Settings

- Attachment Storage Configuration
- Configuring Quick Navigation
- Enabling CamelCase Linking
- Enabling OpenSearch
- Enabling Remote APIs
- Enabling Rich Text Editing Option
- Enabling the Did You Mean Feature
- Enabling Threaded Comments
- Enabling Trackback
- Making Rich Text Editing default
- WebDAV Configuration

Attachment Storage Configuration
Confluence allows you to store attachments in one of three places:

- Filesystem - locally in the Confluence home directory
- Database - in Confluence's configured database
- WebDAV - remotely on a WebDAV server (deprecated)

A System Administrator can configure Confluence's attachment storage via the 'Attachment Storage' option on the 'Administration Console'.

ℹ️ You need to have System Administrator permissions in order to perform this function.

### Attachment Storage Options

#### Local File System

By default, Confluence stores attachments in the `attachments` directory within the configured Confluence home folder. If you are looking to run Confluence Clustered, attachments must be stored in the database.

#### Database

Confluence gives administrators the option to store attachments in the database that Confluence is configured to use. Here are some reasons why, as an administrator, you may want to choose this storage system:

- Ease of backup.
- Avoiding issues with certain characters in attachment file names.

⚠️ While storing attachments in the database can offer some advantages, please be aware that the amount of space used by the database will increase because of the greater storage requirements.

#### WebDAV

Confluence also allows administrators to set an external WebDAV repository as the location for attachment storage.

⚠️ **WebDAV attachment manager deprecated**

The option to store Confluence attachments on a WebDAV server has never worked in a useful fashion, and has not been maintained for many versions.

- The WebDAV attachment manager will be deprecated from Confluence 2.7, and will be removed from a later version of Confluence.
- If you store attachments on external WebDAV servers, we recommend that you migrate to file-system or database-backed attachment storage as soon as possible. Refer to CONF-9313 and CONF-2887.
- This DOES NOT affect the operation of the WebDAV plugin.

### Migration between Attachment Storage Systems

You can 'migrate' your attachments from one storage system to another. All existing attachments will be moved over to the new attachment storage system.

⚠️ When the migration occurs, all other users will be locked out of the Confluence instance. This is to prevent modification of attachments while the migration occurs. Access will be restored as soon as the migration is complete.

⚠️ When migrating attachments from your database to a filesystem, the attachments are removed from the database after migration. However, when migrating attachments from a filesystem to your database, the attachments remain on the filesystem after migration. If you wish to change this function's behaviour from 'copy' to 'move', please see CONF-14802 and cast your vote.

To perform a migration, follow the steps below:

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.

2. Click 'Attachment Storage' in the left-hand panel. The current configuration will be displayed.
Attachment storage configuration

3. Click the 'Edit' button to modify the configuration.
4. Select the storage system you desire.

Edit attachment storage

5. Click the 'Save' button to save the changes.
6. A screen will appear, asking you to confirm your changes. Clicking 'Migrate' will take you to a screen that displays the progress of the migration.

WARNING:

Changing your attachment storage location from the current setting will result in a migration occurring. This may take time (depending on the amount of attachments).

During the migration process, users will not be able to access the system.

Migration Notes:

Prior to migration, all records in the Attachment data database table will be removed.

Are you sure you want to perform this migration?

Migrate  Cancel

Troubleshooting

To enable debug logging for WebDAV attachment storage, add the following to the bottom of WEB-INF/classes/log4j.properties and restart Confluence:

```
log4j.logger.com.atlassian.confluence.pages.persistence.dao=DEBUG,confluencelog
log4j.additivity.com.atlassian.confluence.pages.persistence.dao=false
log4j.logger.org.apache.webdav=DEBUG,confluencelog
log4j.additivity.org.apache.webdav=false
```

RELATED TOPICS

- Important Directories and Files

Hierarchical File System Attachment Storage

Introduction

For Confluence version 3.0, the structure of attachments stored on the filesystem was changed. In versions of Confluence prior to 3.0,
attachments were stored in directories corresponding to the id of the content to which they belong. The more content in Confluence with attachments, the more directories you would have immediately beneath your configured attachments directory. This directory structure has been changed in Confluence 3.0 and since the default configuration of Confluence is to store attachments in the filesystem, this change is likely to have relevance to administrators of most existing Confluence installations.

If you are installing Confluence for the first time, there will be no consequences as a result of this change. If you are upgrading from a previous version of Confluence, the migration to this new filesystem structure should happen automatically during the upgrade.

The reason for introducing this change was to address the issue CONF-13004. Certain file systems have a limit on the number of files that can be stored in a directory and large Confluence installations were reaching this limit. In addition, storing too many files at a single directory level can cause performance degradation in some circumstances. This new attachment storage strategy ensures this will no longer be the case.

The New Directory Layout

The attachment storage layout was chosen to fulfil the following main requirements:

1. Limit the number of entries at any single level in a directory structure.
2. Partition attachments per space making it possible for a system admin to selectively back up attachments from particular spaces (see the JIRA issue for more details).

An attachment in Confluence can be thought of as having a number of identifying attributes: *id*, *space id* and *content id*. That is to say, the attachment logically belongs to a piece of content which logically belongs in a space (not all content belongs to a space). For attachments within a space in Confluence, the directory structure is typically 8 levels, with the name of each directory level based on the following algorithm:

<table>
<thead>
<tr>
<th>level</th>
<th>Derived From</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (top)</td>
<td>Always 'ver003' indicating the Confluence version 3 storage format</td>
</tr>
<tr>
<td>2</td>
<td>The least significant 3 digits of the <em>space id</em>, modulo 250</td>
</tr>
<tr>
<td>3</td>
<td>The next 3 least significant digits of the <em>space id</em>, modulo 250</td>
</tr>
<tr>
<td>4</td>
<td>The full <em>space id</em></td>
</tr>
<tr>
<td>5</td>
<td>The least significant 3 digits of the <em>content id</em>, modulo 250</td>
</tr>
<tr>
<td>6</td>
<td>The next 3 least significant digits of the <em>content id</em>, modulo 250</td>
</tr>
<tr>
<td>7</td>
<td>The full <em>content id</em></td>
</tr>
<tr>
<td>8</td>
<td>The full <em>attachment id</em></td>
</tr>
</tbody>
</table>

Within the 8th level will be a file for each version of that attachment, named to match the version number e.g. 1

An example:
To find the directory where attachments for a particular space are stored, you can use the JSP findspaceattachments.jsp at the location
<confluence url>/admin/findspaceattachments.jsp. This JSP requires a space key and returns the directory on the file system
where attachments for that space are stored.

Attachment D in the above diagram is stored in a slightly different structure. Attachments that are not conceptually within a space replace the
level 2 - 4 directories with a single directory called 'nonspaced'. Examples of such attachments are the global site logo and also attachments
on draft content.

**Upgrading to the new attachment storage structure**

As mentioned previously, this upgrade is only necessary if you have Confluence configured to store attachments on the file system.

If migration is not necessary due to a different storage configuration (for example, because attachments are stored in the database), then no
migration will occur during upgrade and the Confluence log will simply show the following messages -
INFO [main] [AbstractUpgradeManager] upgradeStarted Starting automatic upgrade of Confluence
INFO [main] [UpgradeTask] isUpgradeNeeded The configured attachmentDataDao does not store
attachment data on the file system so the HierarchicalFileSystemAttachmentUpgradeTask is not
necessary.
INFO [main] [AbstractUpgradeManager] upgradeFinished Upgrade completed successfully

Should migration be required, it will occur automatically during upgrade and the log will show output similar to this -

INFO [main] [UpgradeTask] doUpgrade Beginning HierarchicalFileSystemAttachmentUpgradeTask.
Depending on the size of the attachment data this may take some time.
INFO [main] [UpgradeTask] run 4023 pages may have attachments to be moved to a new hierarchical
structure.
INFO [main] [UpgradeTask] run 0 of 4023 pages have had their attachments moved to the new
structure
INFO [main] [UpgradeTask] run 500 of 4023 pages have had their attachments moved to the new
structure
INFO [main] [UpgradeTask] run 1000 of 4023 pages have had their attachments moved to the new
structure
INFO [main] [UpgradeTask] run 1500 of 4023 pages have had their attachments moved to the new
structure
INFO [main] [UpgradeTask] run 2000 of 4023 pages have had their attachments moved to the new
structure
INFO [main] [UpgradeTask] run 2500 of 4023 pages have had their attachments moved to the new
structure
INFO [main] [UpgradeTask] run 3000 of 4023 pages have had their attachments moved to the new
structure
INFO [main] [UpgradeTask] run 3500 of 4023 pages have had their attachments moved to the new
structure
INFO [main] [UpgradeTask] run 4000 of 4023 pages have had their attachments moved to the new
structure
INFO [main] [UpgradeTask] run 4000 of 4023 pages have had their attachments moved to the new
structure
INFO [main] [UpgradeTask] run Successfully moved the attachments for all 4023 pages to the new
hierarchical structure.
INFO [main] [UpgradeTask] doUpgrade Completed HierarchicalFileSystemAttachmentUpgradeTask.
INFO [main] [AbstractUpgradeManager] upgradeFinished Upgrade completed successfully

It should be noted that for most implementations of Java, the migration to the new data structure involves moving the files
(not copying them). Hence, there should not be a need to have additional disk space available. It also means that the
migration should be relatively fast.

Have you previously applied the CONF-8298 patch?

The patch or workaround on the CONF-8298 issue changed the structure of attachment storage but not to the most efficient possible
structure. So during the Confluence 3.0 upgrade process this intermediate (CONF-8298) structure will be detected and automatically
upgraded.

Troubleshooting the upgrade

⚠️ It should be noted that in the event of a failure, your attachment directory may be in an inconsistent state and your first step in
troubleshooting should be to restore the backup of your home directory.

There are a number of reasons the migration could fail. This will be shown in the log with a message similar to "Failed to move the
attachments for all pages to the new hierarchical structure."

Immediately preceding this message in the log will be entries for each page whose attachments could not be moved. The following table
shows examples of these messages and offers some possible explanations.

<table>
<thead>
<tr>
<th>Example Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The configured attachment directory &lt;directory name&gt; could not be found or was not a directory.</td>
<td>The configured Confluence attachment directory is not accessible. Check confluence home for the attachment directory and ensure the permissions are correct to allow reading and writing for this directory.</td>
</tr>
<tr>
<td>It is not possible to migrate the attachments to the new structure since files already exist which the attachment process may need to create.</td>
<td>Your attachments directory contains files or directories which the upgrade task wants to create. That is, a top level directory called ver003 containing directories or files with names containing up to 3 digits (e.g. 1, 213). This could be due to a previous failed attempt to migrate the attachments. You should restore a previous good copy of your attachments directory and remove any files or directories with this naming pattern before retrying.</td>
</tr>
</tbody>
</table>
Configuring Quick Navigation

When a user is searching Confluence (see Using the Quick Navigation Aid) the quick navigation aid automatically offers a dropdown list of pages and other items, matched by title to the search query. By default, this feature is enabled, with the maximum number of simultaneous quick navigation requests set to 40. However, these options can be modified as described below.

The maximum number of simultaneous quick navigation requests defines the maximum number of individuals who can use this feature simultaneously on the same Confluence server. If your Confluence server serves a large number of individuals who use this feature regularly, some of whom are being denied access to it, you may wish to increase this value.

To modify the quick navigation feature’s options,

1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
2. Select ‘General Configuration’ in the left-hand panel.
3. In the ‘General Configuration’ screen, click ‘Edit’.
4. To disable this feature, select ‘Off’ beside ‘Quick Navigation’.
5. To modify the maximum number of simultaneous quick navigation requests, enter the appropriate number in the field beside ‘Max Simultaneous Requests’.
6. Click ‘Save’.

The following screenshot demonstrates the user interface of the quick navigation aid.

Screenshot: The quick navigation aid showing titles matching the query ‘mark’
Enabling CamelCase Linking

CamelCase linking is a form of markup used in many wikis where words are capitalised and compounded together without spaces, 'LikeThis', in order to create links automatically.

By default, CamelCasing is not enabled in Confluence. To use CamelCasing, a Confluence administrator will need to enable this option from the Administration Console.

To enable CamelCasing,

1. Go to the Confluence Administration Console. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'General Configuration' in the left-hand panel.
3. Click 'Edit' on the 'General Configuration' screen.
4. Select 'On' beside 'CamelCase Links'.
5. Click 'Save'.

RELATED TOPICS

- Enabling Threaded Comments
- Enabling Rich Text Editing Option
- Enabling Trackback
- Enabling Remote APIs
- Enabling CamelCase Linking
- Attachment Storage Configuration
- WebDAV Configuration
Enabling OpenSearch

With OpenSearch autodiscovery, you can add Confluence search to your Firefox or IE7 search box (see Searching Confluence from your Browser's Search Box). By default, OpenSearch autodiscovery is enabled. This feature can be enabled or disabled as described below.

To enable or disable OpenSearch autodiscovery,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'General Configuration' in the left-hand panel.
3. In the 'General Configuration' screen, click 'Edit'.
4. Select 'On' beside 'Open Search' to enable this feature, or 'Off' to disable it.
5. Click 'Save'.

RELATED TOPICS

Searching Confluence

Enabling Remote APIs

Confluence provides XML-RPC and SOAP remote APIs. You need to enable the APIs from the Administration Console before you can access Confluence remotely.

You need to have System Administrator permissions in order to perform this function.

To enable the remote API,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'General Configuration' in the left-hand panel.
3. Click 'Edit' next to 'Site Configuration'.
4. Select 'On' next to 'Remote API (XML-RPC & SOAP)'.
5. Click 'Save' to retain your changes.

RELATED TOPICS

RPC Plugins
Remote API Specification
Confluencer.NET

Enabling Rich Text Editing Option

With Confluence 2.0 and later versions, users have the option of using the Rich Text editor to create pages. By default, this is set to 'On'. If desired, a Confluence administrator can disable 'Rich Text Editing' from the Administration Console.

To disable Rich Text editing,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select General Configuration' in the left-hand panel.
3. In the 'General Configuration' screen, click 'Edit'.
4. Select 'Off' beside 'Rich Text Editing'.
5. Click 'Save'.
Enabling the Did You Mean Feature

When you perform a full Confluence search, Confluence may offer you an alternative spelling of your search query. The alternative spelling will appear next to the words 'Did you mean'. By default, this feature is disabled and currently only supports the English language. However, it can be enabled as described below.

To enable the 'Did You Mean' feature,

1. Go to the Confluence 'Administration Console'. To do this:
   * Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'General Configuration' in the left-hand panel.
3. In the 'General Configuration' screen, click 'Edit'.
4. Select 'On' beside 'Did You Mean'.
   * If you have no 'Did you mean' feature index or you have not yet created it, this option will not be available. To create this index, click 'build the did-you-mean index' and on the subsequent page, click 'Build' in the 'Did You Mean Index' section. Then return to the 'General Configuration' screen in Edit mode.
5. Click 'Save'.

Enabling Threaded Comments

Comments on pages or news items are displayed in one of two views:

- **Threaded**: Shows the comments in a hierarchy of responses. Each reply to a comment is indented to indicate the relationships between the comments.
- **Flat**: Displays all the comments in one single list and does not indicate the relationships between comments.

By default, comments are displayed in **threaded** mode. The Confluence administrator can enable or disable the threaded view for the entire Confluence site.

To enable or disable the threaded view,

1. Go to the Confluence 'Administration Console'. To do this:
   * Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'General Configuration' in the left-hand panel.
3. In the 'Feature Settings' section, click 'Edit'.
4. Select 'On' beside 'Threaded Comments' to enable threaded mode.
   * Select 'Off' to disable threaded mode and display all comments in flat mode.
5. Click 'Save'.

Enabling Trackback
When Trackback is enabled, any time you link to an external webpage that supports Trackback Autodiscovery, Confluence will send a trackback ping to that page to inform it that it has been linked to.

Confluence pages also support Trackback Autodiscovery and when Trackback is enabled, can receive trackback pings sent by other sites.

To enable trackback,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'General Configuration' in the left panel.
3. In the 'Feature Settings' screen, click 'Edit'.
4. Select 'On' beside 'Trackback' and click 'Save'.

RELATED TOPICS

- Hiding external referrers (Confluence Docs 3.0)
- Anonymous Access to Remote API (Confluence Docs 3.0)
- Enabling or Disabling Public Signup (Confluence Docs 3.0)
- Ignoring External Referrers (Confluence Docs 3.0)
- User Email Visibility (Confluence Docs 3.0)
- Excluding external referrers (Confluence Docs 3.0)
- Managing External Referrers (Confluence Docs 3.0)
- Hiding External Links From Search Engines (Confluence Docs 3.0)
- Hiding the People Directory (Confluence Docs 3.0)
- Adding SSL for Secure Logins and Page Security (Confluence Docs 3.0)
- Spam Prevention via Captcha (Confluence Docs 3.0)

Making Rich Text Editing default

A Confluence administrator can configure whether the default mode of editing on the site is 'Rich Text' or 'Wiki Markup'.

Users will still be able to configure their individual preferences from the 'Edit' tab of a page.

To make Rich Text Editing the default,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'General Configuration' in the left-hand panel.
3. Click 'Edit' on the 'General Configuration' screen.
4. Select 'On' beside 'Users see Rich Text Editor by default'.
   (Select 'Off' to set 'Wiki Markup' editing as the default.)
5. Click 'Save'.

RELATED TOPICS

- Enabling Rich Text Editing Option
- Making Rich Text Editing default

WebDAV Configuration
On this page:

- Introduction to Confluence's WebDAV Client Integration
- Restricting WebDAV Client Write Access to Confluence
- Disabling Strict Path Checking
- Virtual Files and Folders

Introduction to Confluence's WebDAV Client Integration

WebDAV allows users to access Confluence content via a WebDAV client, such as 'My Network Places' in Microsoft Windows. Provided that the user has permission, they will be able to read and write to spaces, pages and attachments in Confluence. Users will be asked to log in and the standard Confluence content access permissions will apply to the equivalent content available through the WebDAV client.

By default, all WebDAV clients have permission to write to Confluence. Write permissions include the ability for a WebDAV client to create, edit, move or delete content associated with spaces, pages and attachments in a Confluence installation.

On the 'WebDav Configuration' page, you can:

- Deny a WebDAV client write permissions to a Confluence installation using a regular expression (regex).
- Disable or enable strict path checking.
- Enable or disable access to specific virtual files/folders.

*The 'WebDav Configuration' page is only be available if the has been enabled. (Refer to Installing and Configuring Plugins using the Plugin Repository Client for more information on enabling Confluence plugins). Note that this plugin is bundled with Confluence, and can be enabled or disabled by the System Administrator. The settings on the 'WebDav Configuration' page do not apply to external attachment storage configuration.*

Restricting WebDAV Client Write Access to Confluence

In earlier versions of the WebDAV plugin, separate options for restricting a WebDAV client's write permissions (that is, create/move, edit and delete actions), were available. However, in the current version of this plugin, they have been simplified and combined into a general write permission restriction that covers all of these actions.

WebDAV clients are now denied write permission to your Confluence installation by setting a regex that matches specific content within the WebDAV client's user agent header. Upon setting a regex, it will be added to a list of restricted WebDAV clients. Any WebDAV clients whose user agent header matches a regex in this list will be denied write permission to your Confluence installation.

Example: A PROPFIND method header generated by a Microsoft Web Folder WebDAV client, showing the user agent header field:

```plaintext
PROPFIND /plugins/servlet/confluence/default HTTP/1.1
Content-Language: en-us
Accept-Language: en-us
Content-Type: text/xml
Translate: f
Depth: 1
Content-Length: 489
User-Agent: Microsoft Data Access Internet Publishing Provider DAV
Host: 127.0.0.1:8082
Connection: Keep-Alive
```

Unlike earlier versions of the WebDAV plugin which could only restrict write permissions for all WebDAV clients, the current version of this plugin allows you to restrict write permissions to specific WebDAV clients selectively.

To restrict a WebDAV client's write access permissions to your Confluence installation,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Click 'WebDav Configuration' under 'Configuration' in the left panel. The 'WebDav Configuration' page is displayed.
3. Enter a regex that matches a specific component of the user agent header sent by the WebDAV client you want to restrict.
4. Click the 'Add new regex' button. The regex is added to the list of restricted WebDAV clients.
   - You can repeat steps 3 and 4 to add a regex for each additional WebDAV client you want to restrict.
5. Click the 'Save' button to save the configuration changes.

To restore one or more restricted WebDAV client's write access permissions to your Confluence installation,
1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Click 'WebDav Configuration' under 'Configuration' in the left panel. The 'WebDAV Configuration' page is displayed.
3. Select the regex(es) from the list that match(es) the user agent header sent by the restricted WebDAV client(s) you want to restore.
4. Click the 'Remove selected regexes' button. The regexes you had selected are removed from the list of restricted WebDAV clients.
5. Click the 'Save' button to save the configuration changes.

Disabling Strict Path Checking

If you observe any idiosyncrasies with your WebDAV client, such as a folder that does exist on your Confluence site but is missing from the client, you can disable the WebDAV plugin's strict path checking option, which may minimise these problems.

To disable the WebDAV plugin's strict path checking option,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Click 'WebDav Configuration' under 'Configuration' in the left panel. The 'WebDAV Configuration' page is displayed.
3. Clear the 'Disable strict path check' check box.
4. You can re-enable this option at a later point in time by simply selecting this check box.
5. Click the 'Save' button to save this configuration change.

Virtual Files and Folders

In the unlikely event that you observe any problems with the WebDAV client's performance or stability, you can enable access to automatically generated (that is, virtual) files and folders.
By default, these options are hidden on the 'WebDAV Configuration' page. To make them visible, you must append the parameter `?hiddenOptionsEnabled=true` to the end of your URL and reload the page. For example:

```
<Confluence base URL>/admin/plugins/webdav/config.action?hiddenOptionsEnabled=true
```

Screenshot: The Hidden Virtual Files and Folders Option

Virtual Files and Folders

You can choose to either hide or show generated files or folders.

<table>
<thead>
<tr>
<th>.url</th>
<th>@exports</th>
<th>@versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

To enable or disable access to virtual files and folders,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Click 'WebDav Configuration' under 'Configuration' in the left panel. The 'WebDAV Configuration' page is displayed.
3. Amend your URL as described in the note above and reload the 'WebDAV Configuration' page.
4. Select or clear the check box options in the 'Virtual Files and Folders' section as required.
5. Click the 'Save' button to save the configuration changes.

RELATED TOPICS

- Important Directories and Files (Confluence Docs 3.0)
- Attachment Storage Configuration (Confluence Docs 3.0)
- WebDAV Configuration (Confluence Docs 3.0)
- Confluence WebDAV Plugin (Confluence Extensions)

Other Settings

- Configuring Attachment Size
- Configuring Character Encoding
- Configuring HTTP Timeout Settings
- Configuring Indexing Language
- Configuring Jira Issues Icon mappings
- Configuring Number Formats
- Configuring Shortcut Links
- Configuring Time and Date Formats
- Number of Ancestors to Show in Breadcrumbs
- Thumbnail Settings

Configuring Attachment Size

Confluence gives you the option of limiting the maximum size of a single file attachment. Confluence administrators should keep in mind that the amount of disk space used by Confluence is directly proportional to the number and size of attachments put into the system.

To configure the maximum size allowed for an attachment
To configure the maximum index-able size of attachments

By default, large attachment is defined as greater than 1 MB. The threshold for attachments that won't get excerpts can be modified using the system property `atlassian.indexing.contentbody.maxsize`, which takes a size in bytes.

Example

To specify 250 kb you would use the following JVM parameter:

```
-Datlassian.indexing.contentbody.maxsize=256000
```

Outcomes of Limiting Attachment Indexing Size

Limiting the size of attachment indexing has the following effects:

- Decreases the size of the index when large attachments are present.
- Decreases the memory used in indexing large attachments.
- Prevent excerpts of large attachments being displayed in search results.

For more details, please refer to the following JIRA issue.

RELATED TOPICS

- Configuring Indexing Language
- Number of Ancestors to Show in Breadcrumbs
- Configuring Attachment Size
- Configuring HTTP Timeout Settings
- Configuring Time and Date Formats
- Configuring Character Encoding
- Thumbnail Settings
- Configuring Number Formats
- Recognised System Properties

Confluence uses UTF-8 character encoding to deliver its pages.

⚠️ While it is possible to change the character encoding, unless you are certain of what you are doing, we recommend that you leave this as it is.

To change the character encoding,

1. Go to the ‘Administration Console’ and click ‘General Configuration’ in the left panel.
2. Click ‘Edit’ at the bottom of the ‘Formatting and International Settings’ screen. For Confluence version earlier than 2.6.2, look for the ‘Options and Settings’ screen.
4. ‘Save’ your changes.

RELATED LINKS

Joel Spolsky: The Absolute Minimum Every Software Developer Absolutely, Positively Must Know About Unicode and Character Sets (No...
Configuring HTTP Timeout Settings

When macros such as the RSS Macro make HTTP requests to servers which are down, a long timeout value is used. You can set this timeout value through a system parameter to avoid this.

To configure the HTTP Timeout Settings,

1. Go to the Confluence 'Administration Console'. To do this:
   * Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
   2. Select 'General Configuration' under the 'Configuration' heading in the left-hand panel.
   3. Find the 'Connection Timeouts' section in the lower portion of the screen.
   4. Click 'Edit' to adjust the settings.

Screenshot: HTTP Timeout Settings in Confluence

<table>
<thead>
<tr>
<th>Connection Timeouts</th>
</tr>
</thead>
<tbody>
<tr>
<td>External connections enabled:</td>
</tr>
<tr>
<td>Connection Timeout (milliseconds):</td>
</tr>
<tr>
<td>Socket Timeout (milliseconds):</td>
</tr>
</tbody>
</table>

HTTP Timeout Settings

The settings for HTTP Timeout in Confluence are as follows:

* Adjust External connections enabled: This setting allows system administrators to disable external connections so macros like the RSS Macro won't be allowed to make connections to an external server. It's provides protection against external servers providing insecure HTML, timing out or causing performance problems. The default setting is 'true'.
* Connection Timeout (milliseconds): Sets the maximum time for a connection to be established. A value of zero means the timeout is not used. The default setting is ten seconds (10000).
* Socket Timeout (milliseconds): Sets the default socket timeout (SO_TIMEOUT) in milliseconds, which is the maximum time Confluence will wait for data. A timeout value of zero is interpreted as an infinite timeout. The default setting is ten seconds (10000).

This feature is available in 2.2.8 and later versions of Confluence. Versions prior to 2.7 have a different method for adjusting these settings (link leads to legacy documentation).

Configuring Indexing Language

Changing the Indexing Language setting may improve the accuracy of Confluence search results if the majority of the content of your site is in some language other than English. Since Confluence v. 2.2.5, the content indexing support is provided in German, Russian, Chinese, CJK, French, Brazilian, Czech and Greek besides English (default).

To configure a different indexing language,
1. Go to the ‘Administration Console’ and click on ‘General Configuration’ in the left panel.
2. Click ‘Edit’ on the right hands side of the ‘Formatting and International Settings’ section.
3. There is a drop-down list of ‘Indexing Language’ currently supported in Confluence.
4. ‘Save’ your changes.

RELATED TOPICS
- Configuring Indexing Language
- Content Index Administration
- Creating a Lowercase Page Title Index
- Rebuild the Content Indices from scratch
- Working with Macros

Configuring Jira Issues Icon mappings

If you are using the {jiraissues} macro to retrieve information from a JIRA server, you will have to tell Confluence where to find the icons for any custom statuses or issue types you have configured in JIRA.

Confluence is configured by default with all JIRA's standard issue type and status icons. You will only need to change these settings if you have customised additional statuses or issue types for JIRA or have changed JIRA's default icons.

To configure custom icons,

1. Go to the ‘Administration Console’ and click on ‘Jira Issue Icon Mappings’ in the left panel.
2. For each icon you wish to configure, enter the name of the issue type or status into the Jira entity field, and the filename of its icon into the filename field.
   
   Ensure that the icon with that filename is located in the /images/icons directory of the JIRA server.
3. You may edit existing icon mappings by clicking on the remove link by an existing mapping, then re-adding it with a new icon filename.

RELATED TOPICS
- Configuring Indexing Language
- Number of Ancestors to Show in Breadcrumbs
- Configuring Attachment Size
- Configuring HTTP Timeout Settings
- Configuring Time and Date Formats
- Configuring Character Encoding
- Thumbnail Settings
- Configuring Number Formats
- Recognised System Properties

Configuring Number Formats

To change the number formats,
1. Go to the ‘Administration Console’ and click on ‘General Configuration’ in the left panel.

2. Click ‘Edit’ at the bottom of the ‘Options and Settings’ screen.
   - There are two number format settings:
     - Long Number Format
     - Decimal Number Format

3. Change the formats using the guidelines in this document.

4. ‘Save’ your changes.

RELATED TOPICS

- Configuring Indexing Language
- Number of Ancestors to Show in Breadcrumbs
- Configuring Attachment Size
- Configuring HTTP Timeout Settings
- Configuring Time and Date Formats
- Configuring Character Encoding
- Thumbnail Settings
- Configuring Number Formats
- Recognised System Properties

Configuring Shortcut Links

Shortcut links provide a quick way of linking to resources frequently referenced from Confluence. When you create a shortcut link, you are assigning a key to a URL so that when a user edits Confluence documents they can type the key instead of the complete URL.

Here is an example:

Most Google searches look like this: http://www.google.com/search?q=. If you create a shortcut for this search with the key ‘google’, every time a user needs to use http://www.google.com/search?q=, they can just type [searchterms@google] instead.

Here is a screenshot showing the shortcuts currently defined on http://confluence.atlassian.com:

<table>
<thead>
<tr>
<th>Key</th>
<th>Expanded Value</th>
<th>Default Alias</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>cache</td>
<td><a href="http://www.google.com/search?q=cache">http://www.google.com/search?q=cache</a>:</td>
<td></td>
<td>Remove</td>
</tr>
<tr>
<td>imdb</td>
<td><a href="http://us.imdb.com/title">http://us.imdb.com/title</a>?</td>
<td></td>
<td>Remove</td>
</tr>
<tr>
<td>jira</td>
<td><a href="http://jira.atlassian.com/secure/QuickSearch.jspa?searchString=">http://jira.atlassian.com/secure/QuickSearch.jspa?searchString=</a></td>
<td>JIRA Issue %s</td>
<td>Remove</td>
</tr>
<tr>
<td>google</td>
<td><a href="http://groups.google.com/groups?q=">http://groups.google.com/groups?q=</a></td>
<td></td>
<td>Remove</td>
</tr>
<tr>
<td>google</td>
<td><a href="http://www.google.com/search?q=">http://www.google.com/search?q=</a></td>
<td></td>
<td>Remove</td>
</tr>
<tr>
<td>dictionary</td>
<td><a href="http://www.dict.org/bin/Dict?Database=%Form=Dict1&amp;Strategy=%25&amp;Query=">http://www.dict.org/bin/Dict?Database=%Form=Dict1&amp;Strategy=%&amp;Query=</a></td>
<td></td>
<td>Remove</td>
</tr>
</tbody>
</table>

Shortcut links are added and maintained by Confluence administrators from the Administration Console.

To create a shortcut link,

1. Go to the ‘Administration Console’ and click ‘Shortcut Links’ in the left panel.
2. Enter a ‘Key’ for your shortcut. This is the shortcut name a user will use to reference the URL.
3. Enter the ‘Expanded Value’. This is the URL for the link. You can use ‘%s’ in the URL to specify where the user’s input is inserted. If there is no ‘%s’ in the URL, the user’s input will be put at the end.
4. (Optional. Available in Confluence version 2.3 and later.) Enter a ‘Default Alias’. This is the text of the link which will be displayed on the page where the shortcut is used, with the user’s text being substituted for ‘%s’.
5. Click ‘Save’. 
Using Shortcut Links

Specify in the link what should go on the end of the shortcut URL, followed by an at-sign (@) and the key of the shortcut. Shortcut names are case-insensitive. So, for example, using the keys shown in the above screenshot:

<table>
<thead>
<tr>
<th>To link to...</th>
<th>Type this</th>
<th>Resulting URL</th>
<th>Demonstration</th>
</tr>
</thead>
<tbody>
<tr>
<td>a JIRA issue</td>
<td>[CONF-1000@JIRA]</td>
<td><a href="http://jira.atlassian.com/secure/QuickSearch.jspa?searchString=CONF-1000">http://jira.atlassian.com/secure/QuickSearch.jspa?searchString=CONF-1000</a></td>
<td>CONF-1000</td>
</tr>
<tr>
<td>a Google search</td>
<td>[Atlassian Confluence@Google]</td>
<td><a href="http://www.google.com/search?q=Atlassian+Confluence">http://www.google.com/search?q=Atlassian+Confluence</a></td>
<td>Atlassian Confluence@Google</td>
</tr>
</tbody>
</table>

Shortcut links can have titles just like any other link:

<table>
<thead>
<tr>
<th>To link to...</th>
<th>Type this</th>
<th>Resulting URL</th>
<th>Demonstration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Movie Database</td>
<td>[Fight Club</td>
<td>tt0137523@IMDB]</td>
<td><a href="http://us.imdb.com/Title?tt0137523">http://us.imdb.com/Title?tt0137523</a></td>
</tr>
</tbody>
</table>

Deleting Shortcut Links

Once you have created a shortcut link, it is listed under ‘Shortcut Links’ in the ‘Administration Console’. Click ‘Remove’ to delete the shortcut.

RELATED TOPICS

Confluence allows you to localise the formats used to display dates and times within the web interface. The settings use the syntax of Java’s SimpleDateFormat class (described below).

To change the time and date formats,

1. Go to the ‘Administration Console’ and click on ‘General Configuration’ in the left panel.
2. Click ‘Edit’ at the bottom of the ‘Options and Settings’ screen.
   - There are three time and date format settings:
     - Time Format: displaying only the time of day (for example, when each news item is posted)
     - Date Time Format: displaying both the date and the time of day (for example, in historical versions of pages)
     - Date Format: displaying only the date (for example, the creation and most recent modification dates of pages)
3. Change the formats using the guidelines in this document.
4. ‘Save’ your changes.

RELATED LINKS

- Java 1.4.2 SimpleDateFormat API

RELATED TOPICS

- Configuring Indexing Language
- Number of Ancestors to Show in Breadcrumbs
- Configuring Attachment Size
- Configuring HTTP Timeout Settings
- Configuring Time and Date Formats
Number of Ancestors to Show in Breadcrumbs

Whenever there are three or more page links to be displayed in the breadcrumbs, Confluence will use an ellipsis like this ‘...’ and display only the topmost and lowermost page links. Clicking on the ellipsis will display the page links in between.

Note that the Dashboard and space homepage links are always displayed at the start of the breadcrumbs, and are not counted as ancestors for the purpose of this setting.

To configure the number of ancestors to show in the breadcrumbs,

1. Go to the ‘Administration Console’ and click on ‘General Configuration’ in the left panel.
2. Click ‘Edit’ at the bottom of the ‘Options and Settings’ screen.
3. Beside ‘Number of Ancestors to show in Breadcrumbs’, enter a number. For example, if you enter 2, two immediate ancestors for the page will be displayed following the dots.
4. ‘Save’ your changes.

Thumbnail Settings

The thumbnail settings allow you to define the height and width of images when they are displayed as thumbnails. This affects the images displayed by the Gallery macro and the Thumbnail macro.

To configure thumbnail settings,
1. Go to the ‘Administration Console’ and click ‘General Configuration’ in the left-hand panel.

2. Click ‘Edit’ on the ‘General Configuration’ screen.

3. Under the heading ‘Attachment Settings’, enter a value in pixels for:
   - Thumbnail maximum height — The default setting is 200 pixels.
   - Thumbnail maximum width — The default setting is 200 pixels.

4. ‘Save’ your changes.

RELATED TOPICS
- Uploading a Profile Picture
- Displaying a Thumbnail Image
- Gallery Macro

Configuring System Properties

In general, you can configure system properties by providing an argument of `-Dprop=value` to a Java program when it starts up.

Because Confluence is a Java web application, the Java program is typically your application server. Therefore, you need to configure system properties in your application server's start-up script.

Below is a general example of how system properties are configured for any Java application. The system property arguments can appear anywhere in the argument list.

```
java ... -Dhttp.proxyHost=proxy.example.org -Dhttp.proxyPort=8080
```

The above example configures two system properties: `http.proxyHost` and `http.proxyPort` with values `proxy.example.org` and `8080` respectively.

Sometimes instructions will say simply 'set system property X', without saying what it should be set to. In this case, it is usually sufficient to simply use `-Dprop`, without a value. For example:

```
java ... -Datlassian.mail.disable
```

Application Server Examples

Please consult your application server documentation for how to provide system properties to the Java runtime or to a particular application server.

Below are some examples of how to start up different application servers with these system properties set:

<table>
<thead>
<tr>
<th>AppServer</th>
<th>Startup Script</th>
<th>Variable to Edit</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confluence Stand-alone .zip or .tar.gz Distribution</td>
<td>bin/setenv.bat (Windows) bin/setenv.sh (Unix, Linux OS X)</td>
<td>JAVA_OPTS</td>
<td>set JAVA_OPTS=-Dhttp.proxyHost=proxy.example.org -Dhttp.proxyPort=3128 (Windows) export JAVA_OPTS=-Dhttp.proxyHost=proxy.example.org -Dhttp.proxyPort=3128 (Unix)</td>
</tr>
<tr>
<td>Tomcat Windows Service</td>
<td>n/a</td>
<td>n/a</td>
<td>See below</td>
</tr>
<tr>
<td>Tomcat .war installation</td>
<td>bin/catalina.bat (Windows) bin/catalina.sh (Unix)</td>
<td>JAVA_OPTS</td>
<td>set JAVA_OPTS=%JAVA_OPTS% -Dhttp.proxyHost=proxy.example.com -Dhttp.proxyPort=3128 (Windows) export JAVA_OPTS=-Dhttp.proxyHost=proxy.example.org -Dhttp.proxyPort=3128 (Unix)</td>
</tr>
</tbody>
</table>
**Configuring System Properties in Tomcat as a Windows Service**

Defining JAVA_OPTS in your setenv.bat file will not be sufficient to configure system properties if you are running Confluence with Tomcat as a Windows Service. Rather, there are two ways to configure system properties:

- through the Tomcat configuration application, normally found in the Windows system tray
- updating the service configuration directly in your Windows Registry.

As an example of the latter, for Tomcat 5 you will need to modify \%HKEY_LOCAL_MACHINE\SOFTWARE\Apache Software Foundation\Procrun 2.0\Tomcat5\Parameters\Java\Options and add the JAVA_OPTS parameter there with the necessary system properties.JvmMx and JvmMs are listed separately from the additional options. See [Editing the Windows Registry](related) for details.

**Displaying the System Properties**

To see what Confluence is using, check Displaying System Properties.

**RELATED TOPICS**

Recognised System Properties

**Recognised System Properties**

Confluence has a small number of obscure configuration and debugging settings that can be enabled through Java system properties. System properties are usually set by passing the `-D` flag to the Java virtual machine in which Confluence is running. (Refer to the full instructions.)

<table>
<thead>
<tr>
<th>Property</th>
<th>Since</th>
<th>Default Value</th>
<th>Module...</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>atlassian.forceSchemaUpdate</td>
<td>1.0</td>
<td>true</td>
<td>atlassian-config</td>
<td>By default, Confluence will only run its database schema update when it detects that it has been upgraded. This flag will force Confluence to perform the schema update on system startup.</td>
</tr>
<tr>
<td>confluence.home</td>
<td>1.0</td>
<td>Any filesystem path</td>
<td>Confluence and atlassian-config</td>
<td>If this system property is set, Confluence will ignore the contents of the confluence-init.properties file, and use this property as the setting for the Confluence Home directory.</td>
</tr>
<tr>
<td>confluence.devmode</td>
<td>1.0</td>
<td>true</td>
<td>Confluence</td>
<td>Enables additional debugging options that may be of use to Confluence developers. Do not enable this flag on a production system.</td>
</tr>
<tr>
<td>confluence.disable.mailpolling</td>
<td>2.4</td>
<td>false</td>
<td>Confluence</td>
<td>If set to &quot;true&quot;, will prevent Confluence from retrieving mail for archiving within spaces. Manually triggering &quot;check for new mail&quot; via the web UI will still work. This property has no effect on outgoing mail</td>
</tr>
<tr>
<td>confluence.i18n.reloadbundles</td>
<td>1.0</td>
<td>true</td>
<td>Confluence</td>
<td>Setting this property will cause Confluence to reload its i18n resource bundles every time an internationalised string is looked up. This can be useful when testing translations, but will make Confluence run <strong>insanely slowly</strong>.</td>
</tr>
<tr>
<td>Property</td>
<td>Version</td>
<td>Value</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------</td>
<td>-------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>confluence.ignore.debug.logging</td>
<td>1.0</td>
<td>true</td>
<td>Confluence will normally log a severe error message if it detects that DEBUG level logging is enabled (as DEBUG logging generally causes a significant degradation in system performance). Setting this property will suppress the error message.</td>
<td></td>
</tr>
<tr>
<td>confluence.jmx.disabled</td>
<td>3.0</td>
<td>false</td>
<td>If set to &quot;true&quot;, will disable Confluence's JMX monitoring. This has the same effect as setting the &quot;enabled&quot; property to false in WEB-INF/classes/jmxContext.xml.</td>
<td></td>
</tr>
<tr>
<td>confluence.optimize.index.modulo</td>
<td>2.2</td>
<td>20</td>
<td>Number of index queue flushes before the index is optimised.</td>
<td></td>
</tr>
<tr>
<td>confluence.plugins.bundled.disable</td>
<td>2.9</td>
<td>false</td>
<td>Starts confluence without bundled plugins. May be useful in a development environment to make Confluence start quicker, but since bundled plugins are necessary for some of Confluence's core functionality, this property should not be set on a production system.</td>
<td></td>
</tr>
<tr>
<td>atlassian.mail.fetchdisabled</td>
<td>1.0</td>
<td>false</td>
<td>Disables mail fetching services for IMAP and POP.</td>
<td></td>
</tr>
<tr>
<td>atlassian.mail.senddisabled</td>
<td>1.0</td>
<td>false</td>
<td>Disables sending of mail.</td>
<td></td>
</tr>
<tr>
<td>atlassian.disable.caches</td>
<td>2.4</td>
<td>true</td>
<td>Setting this property will disable conditional get and expires: headers on some web resources. This will significantly slow down the user experience, but is useful in development if you are frequently changing static resources and don't want to continually flush your browser cache.</td>
<td></td>
</tr>
<tr>
<td>org.osgi.framework.bootdelegation</td>
<td>2.10</td>
<td>empty</td>
<td>Comma-separated list of package names to provide from application for OSGi plugins. Typically required when profiling Confluence. For example: &quot;com.jprofiler&quot;, &quot;com.yourkit&quot;.</td>
<td></td>
</tr>
<tr>
<td>confluence.diff.timeout</td>
<td>3.1</td>
<td>1000</td>
<td>Number of milliseconds to wait for a diff operation (comparing two page versions) to complete before aborting with an error message.</td>
<td></td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

**Confluence and JIRA**

- Add Confluence EAR-WAR to JIRA Standalone
- Integrating JIRA and Confluence
- Override properties in JIRA to Confluence Bridge
- Setting Up Trusted Communication between JIRA and Confluence

**RELATED TOPICS**

- Configuring Jira Issues Icon mappings
- JIRA Issues Macro
- JIRA Portlet Macro

**Add Confluence EAR-WAR to JIRA Standalone**

![Warning](image)

This guide is for experts only. If you run into any difficulties with this process, Atlassian technical support may provide limited assistance outside of helping users switch to running Confluence Standalone separately.

This document will assist you in adding Confluence to your existing JIRA Standalone instance.

**Step 0 - Consider alternatives**

Before embarking on this process, consider whether you could not rather run JIRA and Confluence in separate Tomcat instances running
behind an Apache frontend server (see guides for Confluence and JIRA). There are some benefits to keeping them separate:

- Each app can be restarted without affecting the other.
- If one webapp hangs for any reason (eg. running out of memory), it doesn't affect the other.
- Any problems can be debugged more easily. Logs are separate and product-specific, rather than everything going to catalina.out.
- Thread and heap dumps are smaller and more relevant.
- It reduces the likelihood of jar conflicts (eg. jars that must be installed in common/lib or lib for Confluence running off Apache Tomcat version 6 or above), particularly if you later want to install a third webapp not from Atlassian.

Offsetting this is the extra complexity of having to run Apache. The advantage of running two war files inside one application server is a moderate memory saving based on one jvm instead of two.

If you wish to proceed, please follow these instructions:

**Step 1 - Download and extract WAR**

1. Download the Confluence WAR file
2. Extract the downloaded zip file. It should extract to a folder called confluence-<version>. Inside this folder you'll find a folder called "confluence". Make a note of the absolute path to this directory (as you will need to use it later). Note: Do not copy the confluence folder to the webapps folder inside tomcat - this may cause Confluence to be deployed more than once.

**Step 2 - Configure confluence-init.properties**

1. Open confluence/WEB-INF/classes/confluence-init.properties in a text editor
2. Set the confluence.home property to a directory of your choosing. This is the directory that will contain all of Confluence's configuration, backup and attachment files.

**Step 3 - Edit tomcat context descriptors**

If you are deploying to JIRA version 3.3 or higher:

1. Create a file called confluence.xml in your JIRA standalone's conf/Catalina/localhost directory (if you have set up a different hostname for your JIRA tomcat instance, please specify that instead of localhost)
2. Open confluence.xml and add these lines:

   ```xml
   <Context path="/confluence" docBase="c:/applications/confluence-2.1.3/confluence" debug="0" reloadable="true">
     <Logger className="org.apache.catalina.logger.FileLogger" prefix="atlassian-confluence." suffix=".log" timestamp="true"/>
   </Context>
   ```

3. For docBase specify the value you noted down earlier. ! This is the full path to the confluence folder in your confluence-<version> installation folder, not the confluence home folder. It should look like: c:/<path to confluence installation>/confluence-<version>/confluence.

Otherwise (for older versions of JIRA):

1. Open conf/server.xml in a text editor
2. Find the block that begins: `<Context path="" docBase="../atlassian-jira" debug="0" reloadable="true">` and ends with `</Context>` block.
3. After the `</Context>`, append the following:

   ```xml
   <Context path="/confluence" docBase="c:/applications/confluence-2.1.3/confluence" debug="0" reloadable="true">
     <Logger className="org.apache.catalina.logger.FileLogger" prefix="atlassian-confluence." suffix=".log" timestamp="true"/>
   </Context>
   ```

4. For docBase specify the value you noted down earlier. ! This is the full path to the confluence folder in your confluence-<version> installation folder, not the confluence home folder. It should look like: c:/<path to confluence installation>/confluence-<version>/confluence.
5. Remove the commons-logging-1.0.4.jar file from the confluence/WEB-INF/lib directory

! Do not delete the existing Jira `<Context>` block. Insert the code above after the Jira `<Context>` block.

**Step 4 - Modify your setenv.sh/bat (ONLY IF YOU ARE RUNNING A SUN MICROSYSTEMS JVM)**

1. Open JIRA's bin/setenv.sh/bat (.sh on unix, .bat on windows) in a text editor,
2. Find the line that says: "... JAVA_OPTS="... " and add -XX:MaxPermSize=128m to its end.

The Java Virtual Machine sets aside a portion of memory as the "permanent space", for objects that it never expects to have to garbage-collect. Because JIRA and Confluence are both quite large applications, it is possible that this permanent space will be filled up. Increasing the application heap size will not help, because the permanent generation size is a separate setting.
**Step 5 - Restart the Server**

1. Shut down, and then restart the standalone server
2. Confluence should now be accessible on the same server as your existing JIRA standalone, under the `confluence` directory. For example, if your JIRA is running at `http://jira.example.org:8080/`, Confluence will be running on `http://jira.example.org:8080/confluence`.

⚠️ When setting up the Confluence database do not reuse the JIRA database. Create a new database for Confluence.

**Troubleshooting**

When I try to send a test mail from Confluence, I get `javax.mail.NoSuchProviderException: smtp`

In some circumstances, Confluence will be unable to send email after being deployed in the same application-server as JIRA. If, when you try to send a test mail from the administration tool, you get the error: "javax.mail.NoSuchProviderException: smtp", please follow these instructions to fix it.

I have installed JIRA and Confluence in some other application server than Tomcat

These instructions only apply to the standalone Tomcat version of JIRA. Other application servers have not been tested in this configuration, and users have specifically reported difficulties deploying the two applications together in Orion Server and JBoss. We hope to resolve these issues soon.

Confluence is slow, and dumps enormous amounts of information to its logfiles

If you are seeing a large amount of DEBUG logging output, then ensure that you have removed the `commons-logging-1.0.4.jar` file from the `confluence/WEB-INF/lib` directory.

**Integrating JIRA and Confluence**

Take a look at the technical guide to the process of adding your Confluence EAR-WAR to JIRA Standalone

JIRA and Confluence were designed to complement each other. We’ve all seen projects where people try to store all their knowledge in the issue tracker, and we’ve seen projects where people have suffered trying to track issues in a knowledge management tool. We say: collect your team’s thoughts, plans and knowledge in Confluence, track your issues in JIRA, and let the two applications work together to help you get your job done.

Here are four ways you can get JIRA and Confluence working together: use Confluence shortcuts to make easy links to JIRA issues, use trackback for two-way linking between Confluence and JIRA, use macros to include JIRA reports in Confluence pages, and integrate your JIRA and Confluence user management.

**Combine Confluence Shortcuts and JIRA Quick Search**

The simplest ideas can often be the most useful. In our Confluence site's global configuration - Administration > Shortcut Links, we have the following shortcut defined:

```
JIRA: http://jira.atlassian.com/secure/QuickSearch.jspa?searchString=
```
This way, it’s simple to create links using Confluence’s shortcut notation. Link directly to JIRA issues: CONF-1000, or use JIRA’s intuitive quick-search functionality to create links to particular groups of issue: CONF open improvements will link to a list of all open issues in the Confluence project of type “Improvement” (try it and see!)

Use Trackback for easy two-way linking

Activate Trackback in JIRA and Confluence, and if someone makes a link from one application to the other, the link will automatically lead both ways: create a link from a JIRA issue to an example in a Confluence page, and the Confluence page will automatically know to link back to the JIRA issue, and vice versa. This is the perfect way to keep discussion connected to an issue.

- Document your user stories or use-cases in Confluence, and see at a glance which issues affect each use-case.
- If a JIRA issue requires more discussion or thought than can be conveniently held in comments, link them to a Confluence page.

(Note: as of Confluence 1.0 and JIRA 2.6, there is no mechanism for trackback to log in to JIRA or Confluence, so the use of trackback is limited to pages that are visible to anonymous visitors. In a protected Intranet environment, you may wish to open up Anonymous access to JIRA and Confluence to allow trackback to take place. Future revisions of the applications will give you the opportunity to allow Confluence to "log in" to JIRA and vice versa, avoiding this limitation)

Use the {jiraissues} and {jiraportlet} macros to embed JIRA reports and portlets into your Confluence site

Any JIRA search-result can be embedded in a Confluence page using the {jiraissues} macro with your choice of included fields and field ordering, and any JIRA dashboard portlet can be embedded in a Confluence page using the {jiraportlet} macro.

This way you can incorporate information from JIRA into the normal flow of your knowledge management. Combined with other macros like {junitreport}, {rss} and {html-include} and the FatCow suite, you can create dashboards in Confluence consolidating information from across your project, with Confluence and JIRA at the centre.

For Confluence 2.7.0 and later, an administrator can configure JIRA (3.12.0 or later) and Confluence to communicate in a trusted way, so that Confluence can request information from JIRA on behalf of the currently logged-in user. JIRA will not ask the user to log in again or to supply a password.

Trusted communication is used when embedding information from one application (e.g. a list of JIRA issues) into another application (e.g. a Confluence page).

Read more about trusted communication.

Link to Confluence pages from JIRA issues

While it is possible to simply paste links to Confluence pages into text fields of an issue (e.g. descriptions), the JIRA Linker Plugin provides a custom field that helps you find the correct page.

Integrate JIRA and Confluence user-management

To save you having to enter users into both JIRA and Confluence, you may benefit from using Atlassian Crowd as the user-repository for both applications.

Alternatively you can configure Confluence to use JIRA's user database (this requires that you are using JIRA with an external database; it will not work if you are using JIRA with an embedded HSQL database).

Some useful extensions
Confluence 3.0 Documentation

1. JIRA Confluence portlet - Display a Confluence page on the JIRA dashboard.
2. Atlassian Activity Stream Plugin - Activity Stream collects information from JIRA, Confluence, FishEye and Crucible.
3. AppLinks Plugin - Allows you to link projects, spaces and repositories between JIRA, Confluence, FishEye, Crucible and SVN applications without the need for long URLs.

And much more coming...

When you buy a license for JIRA or Confluence, you are automatically entitled to a year of updates. We listen to our customers needs, and having our products complement and work well with each other is very important to us. So if there is any way you think Confluence and JIRA could be made to work better, suggest it in our discussion space, and it may very well end up in a future version.

You might also like to take a look at our beyond JIRA page or watch the short video overview on some of these points in .mov format.

Override properties in JIRA to Confluence Bridge

Overriding properties used in the JIRA and Confluence Bridge

If, for some reason, you need to override the name of a column or a table used in Confluence's bridge to JIRA, you may do so in osuser.xml (see below).

This is most likely something you would consider doing if columns names were failing because your database is case sensitive.

```xml
<provider class="bucket.user.providers.CachingCredentialsProvider">
  <property name="chain.classname">com.atlassian.confluence.user.providers.jira.JiraJdbcCredentialsProvider</property>
</provider>
<provider class="bucket.user.providers.CachingAccessProvider">
  <property name="chain.classname">com.atlassian.confluence.user.providers.jira.JiraJdbcAccessProvider</property>
  <property name="chain.datasource">java:comp/env/jdbc/JiraDS</property>
</provider>
<provider class="bucket.user.providers.CachingProfileProvider">
  <property name="chain.classname">com.atlassian.confluence.user.providers.jira.JiraJdbcProfileProvider</property>
  <property name="chain.datasource">java:comp/env/jdbc/JiraDS</property>
  <property name="chain.configuration.provider.class">bucket.user.BucketHibernateConfigProvider</property>
</provider>
```

Simply add the `<property name="chain.PROPERTY_NAME_HERE">NEW_VALUE</property>` element, to override a property (see below) with a new value.

Name Value Pairs for JiraJdbcAccessProvider, JiraJdbcProfileProvider and JiraJdbcCredentialsProvider

<table>
<thead>
<tr>
<th>Property</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>userTable</td>
<td>userbase</td>
</tr>
<tr>
<td>userName</td>
<td>userName</td>
</tr>
<tr>
<td>userPassword</td>
<td>password_hash</td>
</tr>
<tr>
<td>groupTable</td>
<td>groupbase</td>
</tr>
<tr>
<td>groupName</td>
<td>groupname</td>
</tr>
<tr>
<td>membershipTable</td>
<td>membershipbase</td>
</tr>
<tr>
<td>membershipUserName</td>
<td>user_name</td>
</tr>
<tr>
<td>membershipGroupName</td>
<td>group_name</td>
</tr>
<tr>
<td>userId</td>
<td>id</td>
</tr>
<tr>
<td>membershipId</td>
<td>userld</td>
</tr>
</tbody>
</table>

Setting Up Trusted Communication between JIRA and Confluence

An administrator can configure JIRA and Confluence to communicate in a trusted way, so that Confluence can request information from JIRA on behalf of the currently logged-in user. JIRA will not ask the user to log in again or to supply a password.

When JIRA is configured to trust Confluence in this way, we call Confluence the 'trusted application' and JIRA the 'trusting application'.
Trusted communication is used when embedding information from one application (e.g. a list of JIRA issues) into another application (e.g. a Confluence page). Currently only JIRA can be configured to trust Confluence, and only the following two macros have been enhanced to use trusted communication:

- JIRA Issues macro
- JIRA Portlet macro

Further implementations will follow, especially as we roll out the tight integration required between Atlassian products for JIRA Studio.

**Potential security risk**

Do not configure a trusted application unless you trust all code in that application to behave itself at all times. Trusted communication uses public/private key cryptography to establish the identity of the trusted server, so you must also be sure that the trusted application will maintain the security of its private key. Read the details of the security risks below.

---

### On this page:

- Prerequisites
- Why do we need Trusted Communication?
- Overview
- Configuring JIRA to Trust Confluence
- Configuring the Macro Plugin in Confluence
- Adding the Macro to a Confluence Page
- Viewing the Confluence Page
- Security Risks
- Troubleshooting
- Technical Overview of the Trusted Applications Authentication (TAA) Protocol

---

### Prerequisites

- JIRA 3.12.0 or later.
- Confluence 2.7.0 or later.
- In order to authenticate successfully against JIRA, the Confluence user must also be registered as a JIRA user with the same username.

---

#### Common user base recommended

It is **highly recommended** that your JIRA and Confluence instances share a common user base, rather than two separate user bases with duplicated usernames. You will receive an error if Confluence passes JIRA a username which JIRA cannot recognise. Also, with separate user bases you run the risk that the same username may be used by two different people. The trusted application does not supply the user's password, so the trusting application will assume the username belongs to the user registered in the trusting application's own user base.

---

#### Tip: Try Atlassian Crowd for a tidy user management solution.

### Why do we need Trusted Communication?

The JIRA Issues and the JIRA Portlet macros allow you to embed a list of JIRA issues into a Confluence page. Prior to Confluence 2.7, if you wanted to display JIRA issues that had restricted viewing, then you needed to store the JIRA user's credentials (username and password) in the macro code directly on the Confluence page. This was not very secure.

The reasons we require the user credentials are:

- Your JIRA instance might not be public, and you might not want to allow anonymous access to your issues.
- You might have security restrictions on some of your issues. So you don't want to allow someone to leak data from your JIRA project by using the JIRA Issues Macro on a Confluence page.

### Overview

Here is a summary of the integration points in a trusted communications relationship. Each of the following points is described in more detail in the sections below.

- A JIRA System Administrator **configures JIRA to trust Confluence**.
- A Confluence System Administrator **configures the macro plugin to use (or not use) trusted communication**.
- A Confluence user **adds one of the macros to a Confluence page**.
- A Confluence user or anonymous user **views the Confluence page**.

### Configuring JIRA to Trust Confluence
Trust only has to be established once between the two applications. Once trust has been established, it is entirely transparent to the Confluence users.

Using the JIRA Administration Console, the JIRA System Administrator defines Confluence as a trusted application by specifying the Confluence instance’s URL and other information. Refer to the JIRA documentation for details.

### Configuring the Macro Plugin in Confluence

By default, Confluence ships with trusted communication enabled for the following macros:

- JIRA Issues macro
- JIRA Portlet macro

A Confluence System Administrator can decide on the level of trusted communication used by the macros. The different levels are:

- Ignore trusted communications altogether. Trusted communication is turned off at the global level.
- Perform trusted communications whenever the macro is used on a Confluence page, but do not show certain warning messages.
- Perform trusted communications whenever the macro is used on a Confluence page, and show all warning messages. This is the default configuration.

To change the default trusted communication level for the JIRA Macros plugin,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Plugins' in the left-hand panel.
3. The 'Plugin Manager' screen appears, showing a list of installed plugins. Scroll down and click the 'JIRA Macros' link.
4. The 'JIRA Macros' panel appears in the top middle of the screen, as shown below. Click 'Enable' or 'Disable' next to the following options:
   - **JIRA application trust support** – With this option enabled, Confluence will attempt trusted communication with JIRA whenever a user views a page containing the JIRA Issues or Portlet macro, provided criteria are met as described below. With this option disabled, Confluence will never attempt trusted communication with JIRA for these macros.
     - Disable the above option if you do not intend to configure trusted communication between JIRA and Confluence.
   - **JIRA application trust warnings** – With this option enabled, Confluence will display all error and warning messages that may arise from a problem during trusted communication (assuming that trusted communication is enabled). With this option disabled, Confluence will suppress certain warnings. See troubleshooting below.
     - Disable the above option if you have a large number of existing JIRA macros already on your Confluence instance, pointing at a diverse range of JIRA servers. Some of those JIRA servers may have a trusted communication link established (requiring the functionality to be enabled) while other JIRA servers may have no trusted communication link. In this case, you may want to turn off the warning messages so they do not appear on your Confluence pages where the JIRA macros point to non-trusting JIRA servers.

**Screenshot: JIRA Macros panel in Plugin Manager**

---

The image contains a screenshot of the JIRA Macros panel in the Plugin Manager.
Adding the Macro to a Confluence Page

The Confluence user can add and edit the macros as described on the following pages:

- Using the JIRA Issues macro
- Using the JIRA Portlet macro

### Remove the username and password from your macro markup code

Prior to Confluence 2.7, you needed to include a username and password in the macro markup code if you wanted to display JIRA issues which had restricted viewing. Once your administrator has set up trusted communication between Confluence and JIRA, you no longer need to include a username and password in the markup code for your JIRA macros.

The following options are available for determining the issues which will be retrieved from JIRA and displayed on the Confluence page:

<table>
<thead>
<tr>
<th>What you want to do</th>
<th>Macro parameter</th>
<th>URL parameter</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display the JIRA issues which the logged-in user is authorised to see. And if the user is not logged in, display only issues which allow unrestricted viewing.</td>
<td>jiraissues</td>
<td>&amp;</td>
<td>Do not specify any authentication parameters. In this case, the behaviour depends on the way your administrator has set up trusted communication between JIRA and Confluence. Here is a summary of the behaviour. If trusted communication is enabled, the authorisation will work seamlessly. When a logged-in user views your page, they will see only the JIRA issues they are allowed to see. And if they are not logged in, they will see only the issues which allow unrestricted viewing. If trusted communication is disabled, the Confluence page will show only the JIRA issues which allow unrestricted viewing.</td>
</tr>
</tbody>
</table>
Ensure that Confluence will display only the JIRA issues which allow unrestricted viewing.

anonymous

Regardless of who the user is (logged in or not), the Confluence page will show only anonymously-visible issues. Confluence will not attempt to set up a trusted communication link with JIRA in this case.

Use a pre-determined username and password to access the JIRA issues.

&os_username=MYNAME&os_password=MYPASSWORD

Not recommended. Prior to Confluence 2.7, this was the only way of displaying issues with restricted viewing. For Confluence 2.7 and later, this method will still work. Confluence will not attempt to set up a trusted communication link with JIRA in this case.

Refer to the section below for details of what happens when a user views a Confluence page containing a JIRA macro.

Viewing the Confluence Page

When a user views a Confluence page which contains a JIRA Issues or JIRA Portlet macro, this is what happens:

- If the macro markup contains an explicit username and password in the URL parameter, Confluence will not request trusted communication with JIRA. Confluence will retrieve the JIRA issues which the specified username is authorised to see. This behaviour is the same as Confluence versions prior to 2.7.
- If the macro markup contains the anonymous parameter, Confluence will retrieve only the JIRA issues which allow unrestricted viewing. Confluence will not attempt to set up a trusted communication link with JIRA in this case.
- If the user is anonymous (not logged in), Confluence will retrieve only the JIRA issues which allow unrestricted viewing. Confluence will not attempt to set up a trusted communication link with JIRA in this case.
- If trusted communication is disabled via the Plugin Manager in Confluence, then Confluence will not request trusted communication with JIRA. So if there is no explicit username and password in the markup code, Confluence will retrieve only the JIRA issues which allow unrestricted viewing. This behaviour is the same as Confluence versions prior to 2.7.
- If trusted communication is enabled via the Plugin Manager in Confluence:
  - If the user is logged in, then Confluence attempts trusted communication with JIRA. Confluence sends the username to JIRA. JIRA returns a set of issues which that username is authorised to access, based on the JIRA user base and the JIRA groups and permissions. Confluence displays those issues on the page.
  - If JIRA or Confluence encounters a problem during the trusted communication process, an error message may appear on the Confluence page above the macro output – see troubleshooting below.

Security Risks

Please take the following considerations into account when setting up trusted communication:

- When you configure JIRA to trust an application, you are allowing the application to access JIRA in the name of a particular user. The trusted application passes JIRA the user's login name, but no other authentication information. JIRA does not request the user's password. By doing this, you are bypassing JIRA's authentication mechanism.
- Do not configure a trusted application unless you trust all code in that application to behave itself at all times.
- Trusted communication uses public/private key cryptography to establish the identity of the trusted server. The trusted application needs to maintain the security of its private key. Confluence stores its private key in the database. So you must be sure that the Confluence database is secure, and also any full backups of the database.
- Be aware of the risks associated with using separate user bases, as explained above. We strongly recommend a common user base between the trusted and trusting applications.
- When configuring an application to trust another application, you should use a trusted network or SSL to protect the sensitive information passed between the applications during the configuration procedure. This will help to prevent man-in-the-middle attacks.

Troubleshooting

Below are the warning messages which may appear on your Confluence page, above the output of the JIRA Issues or JIRA Portlet macro.

<table>
<thead>
<tr>
<th>Warning Message</th>
<th>Cause</th>
<th>Solution</th>
<th>Warning Message Can be Turned Off?</th>
</tr>
</thead>
<tbody>
<tr>
<td>javax.net.ssl.SSLHandshakeException: sun.security.validator.ValidatorException: PKIX path building failed: sun.security.provider.certpath.SunCertPathBuilderFactoryException: unable to find valid certification path to requested target</td>
<td>JIRA is running over SSL</td>
<td>Add JIRA's SSL Certificate to the Java Keystore</td>
<td>No</td>
</tr>
<tr>
<td>The JIRA server does not recognise your user name. Issues have been retrieved anonymously.</td>
<td>The logged-in Confluence user is not registered in the JIRA user base.</td>
<td>Add the username to your JIRA user base. It is highly recommended that your JIRA and Confluence instances share a common user base.</td>
<td>No</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
| The JIRA server does not trust this Confluence instance for user authentication. Issues have been retrieved anonymously. You can set the macro to always use an anonymous request by setting the 'anonymous' parameter to 'true'. | Your JIRA instance has not been configured to trust your Confluence instance. | One of the following solutions:  
- Configure JIRA to trust Confluence.  
- Disable trusted communications for the JIRA macros in Confluence.  
- Use the anonymous parameter in all your JIRA Issues and JIRA Portlet macros. | Yes |
| The JIRA server does not support trust requests. Issues have been retrieved anonymously. You can set the macro to always use an anonymous request by setting the 'anonymous' parameter to 'true'. | Your JIRA instance is not able to handle trusted communications (i.e. the JIRA version is earlier than 3.12.0). | One of the following solutions:  
- Download the latest version of JIRA and then configure JIRA to trust Confluence.  
- Disable trusted communications for the JIRA macros in Confluence.  
- Use the anonymous parameter in all your JIRA Issues and JIRA Portlet macros. | Yes |

Consult Troubleshooting the JIRA Issues Macro and Trusted Applications for further troubleshooting.

Technical Overview of the Trusted Applications Authentication (TAA) Protocol

Read this section if you want a bit more information on the technical side of things.

Atlassian has developed its own protocol to set up trust between JIRA and Confluence. Below is a technical overview of the process.

Configuring JIRA to trust Confluence:

1. When the JIRA System Administrator provides the base URL of the Confluence instance, JIRA requests a trusted application authentication certificate from Confluence. The certificate contains Confluence’s trusted application ID and public key (generated specifically for use with the TAA protocol).
2. JIRA validates the certificate and asks the System Administrator for a few extra details about the trust relationship, such as a name for the Confluence instance, timeout, allowed IP addresses and allowed request URLs.
3. JIRA stores all this information in the database.

Making a trusted request from Confluence to JIRA:

1. Confluence sends a web request to JIRA, appending additional headers to the request, including:  
   - Timestamp (nonce) of the request + user name of the currently logged-in Confluence user, encrypted with a symmetric key (generated on the fly).  
   - The symmetric key, encrypted with Confluence’s private key.  
   - Confluence’s application ID (as displayed when trusted communication was established).
2. JIRA attempts to decode the encrypted headers, using the stored information about the relationship. It conducts the following checks to validate the request:  
   - The trusted application ID refers to a valid trusted application.  
   - The given username exists in the JIRA user base.  
   - The agreed timeout has not expired.  
   - The request originated from a trusted IP address.
The resource being requested matches those specified in the URL match list.
3. If any of these checks fails, a response is sent to Confluence indicating the reason for failure. Otherwise, JIRA will authenticate the specified user for the duration of the single request, and respond with the resources (i.e. the JIRA issues).

**RELATED TOPICS**

- JIRA Issues Macro
- JIRA Portlet Macro
- Connect to LDAP, JIRA or Other Services Via SSL
- Single Sign-on Integration with JIRA and Confluence
- Troubleshooting the JIRA Issues Macro and Trusted Applications

**Confluence Clustering Overview**

It is possible to run Confluence in a clustered environment instead of on a single server. This means that you can run multiple copies of Confluence in a cluster, so that clients (such as a browser) can connect to any copy and see the same information.

---

**Consider your options carefully before deciding on a clustered installation**

While we have tried to make clustering Confluence as easy and administrator-friendly as possible, it is a major architectural change and requires extra planning for deployment and upgrades. Please consider the information on the Cluster Checklist and then consult Atlassian support before making your final decision.

---

This page gives an overview and links to further pages with information on installing, configuring and administering a Confluence cluster.

**Before Deciding to Run a Confluence Cluster**

1. Read and consider the details on the Cluster Checklist.
2. Consider the difference between clustering for scalability and clustering for high availability (HA).
3. Contact Atlassian support for further information and advice.

**Technical Overview**

Read a technical overview of clustering in Confluence.

**Server and Network Requirements**

- Server hardware requirements
- Technical overview of Confluence clustering
- Diagram of recommended network topology

**Installation and Upgrading**

There are two methods of installing Confluence in a cluster, depending on whether you have existing data:

- Fresh installation
- Existing data

If you are upgrading an existing Confluence cluster to a new version of Confluence, refer to the cluster upgrade guide.

**Configuration and Administration**

- Cluster Administration page in the Administration Console
- Changing datasources in clusters

**Troubleshooting**

- Cluster troubleshooting

**RELATED TOPICS**

- Operating Large or Mission-Critical Confluence Installations
- Performance Tuning
- Requesting Performance Support
- Administrators Guide
- Configuration Guide

**Cluster Administration page**
Overview

Any instance of Confluence which uses a clustered license has a Cluster Configuration page which includes information about the active cluster.

To open the Cluster Administration page,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Click 'Cluster Configuration' in the left-hand menu, in the section called 'Clustering'.

Availability

To access this functionality, you must:

- Be a System Administrator (i.e. have global System Administrator permissions), and
- be using Confluence 2.3 or later, and
- be using a clustered Confluence license.

Screenshot: Cluster Administration Page

This page shows your cluster configuration, and allows you to start a new Confluence cluster using data from this instance.

**Cluster Status** indicates whether your cluster is currently running.
Licensed nodes is the maximum number of instances of Confluence your license allows in a cluster.

Active nodes lists the instances of Confluence currently participating in the cluster.

Starting a new cluster will perform the following changes:

- enable a clustered cache
- migrate attachments from file system to the database
- publish database connection information so other nodes can join the cluster.

All access to Confluence will be locked while this takes place, and you will be forced to restart Confluence afterwards.

Cluster name is a short name for identifying your cluster. Other Confluence instances can join the cluster using this name.

To join an existing cluster, start a clean copy of Confluence on this node and select 'Join Cluster' during the setup wizard.

Related documents

Overview of Confluence Clusters
Confluence Cluster Installation
Cluster Troubleshooting

Changing Datasources Manually in a Cluster

The recommended way of changing database connections is to shut down the whole cluster, install Confluence into new and empty directories and use the Setup Wizard to configure all new database connection settings.

However, if you wish to manually change your settings, you may proceed as described below.

It is strongly recommended that you test all of the following in a staging or test instance of Confluence before performing these steps in your production environment.

Step 1: Prepare

- Locate the confluence-cfg.xml file in the Confluence home directory.
- Make a backup copy of that file.
- Prepare the necessary changes to that file.

Step 2: Shut Down Confluence

You need to shut down all the nodes in the cluster, not just one.

Step 3: Apply your Changes

Apply your configuration changes to the required node.

Step 4: Restart the Changed Node

It is crucial that you bring up the node on which you applied the changes first. Otherwise you will get an error message, and have to shut down all instances again.

Step 5: Restart all Other Nodes

Done.

RELATED PAGES

Overview of Confluence Clusters

Cluster Checklist

It is possible to run Confluence in a clustered environment instead of on a single server. This means that you can run multiple copies of Confluence in a cluster, so that clients (such as a browser) can connect to any copy and see the same information.

Refer to the clustering overview for more information and a list of related pages about clustering Confluence.
Consider your options carefully before deciding on a clustered installation
While we have tried to make clustering Confluence as easy and administrator-friendly as possible, it is a major architectural change and requires extra planning for deployment and upgrades. Please consider the information below and then consult Atlassian Sales before making your final decision.

Summary of the information on this page:

- Purpose of this Document
- Assumed Knowledge
- General Considerations
  - Confluence Clustered is designed to scale the number of simultaneously connected users at a much better performance than what a single node can achieve
  - Confluence Clustered will not improve performance in systems with few users.
  - Confluence Clustered is not a high availability solution.
  - Confluence Clustered is not for disaster recovery nor for transparent failover.
- Server Setup
  - The number of supported cluster nodes is limited to four.
  - All cluster nodes must have the same version of OS, application server, etc.
  - Use good and up-to-date hardware.
  - Confluence Clustered is not supported when run in VMware or other virtualisations.
  - Confluence should be the only application on the cluster servers.
  - Do not upgrade and switch to Confluence Clustered at the same time
- Database Setup
  - Run the database on its own physical server.
  - Attachments must be stored in a database and not the local file system
  - Make sure that you use a supported version of a database server to store Confluence's data.
  - Your database must be provisioned to store a large volume of binary data.
  - You need an experienced DBA available to troubleshoot database performance issues.
- Network Setup
  - We recommend hardware load balancers or putting a software loadbalancer onto its own server.
  - Use separate network adapters for communication between servers.
  - The switch connecting the Confluence cluster nodes must not be a 'smart switch'.
  - Cisco switches need additional configuration.
  - It is recommended that the database is on a different physical network from the Confluence server nodes.
  - Minimize the latency between the Confluence cluster nodes and the database.
  - Prepare a network diagram.
  - You need network support staff available to troubleshoot cluster communication issues.
- Staging Environment
  - You need a staging environment that is exactly the same as your production system.

Purpose of this Document

The purpose of this cluster checklist is to help you:

- Decide whether Confluence Clustered is the right solution for you.
- Create a plan for your clustered deployment.

As a service to our customers, we offer to review your deployment plan and make recommendations to help you avoid common pitfalls. To make use of this service, please consider all the information below carefully while planning your clustered deployment. Then contact Atlassian Pre-Sales for recommendations.

If you need to raise a support request with Atlassian during or after cluster deployment, we will need to ask you questions about your configuration. It will save crucial time if you can provide us with your deployment plan.

For more information about clustering Confluence, refer to the clustering overview.

Assumed Knowledge

In writing this document, we have assumed that our readers have an in-depth knowledge of the following technical areas:

- Database
- Networking
- Application servers
- Load balancers

Before starting a clustered deployment please read the information on this page carefully, as well as the linked documentation, to assess if you have the assumed knowledge.

General Considerations
What will Confluence Clustered do for you?
The points in this section of the page will help you evaluate your reasons for considering a clustered deployment, and then decide whether Confluence Clustered is the right solution for your environment.

Confluence Clustered is designed to scale the number of simultaneously connected users at a much better performance than what a single node can achieve.

Confluence Clustered will not improve performance in systems with few users.

Clustering Confluence means that user requests can be served by independent machines. The performance gains are substantial, and have improved a lot further since Confluence 3.0. Clustering is especially great in dealing with spikes to the load, e.g. during certain hours of business. Just note that if rendering a complicated page (e.g. containing many macros or rendering many graphs) takes five seconds on an otherwise idle server, it will not be faster in a clustered environment. Also, the first step when you encounter performance issues is to tune your existing system, make sure you are using the right hardware and have looked at your database.

Confluence Clustered is not a high availability solution.

Confluence Clustered is not designed specifically to provide a high availability solution.

General availability is higher in a Confluence cluster than on a single installation, you can for example take one node down for minor maintenance tasks e.g. when adding a new CPU or adding RAM. But you still have to bring down all nodes at the same time for software upgrades. Also there are certain conditions, like loss of network connectivity between nodes (‘split brain’), that will result in the cluster shutting itself down. Confluence Clustered offers higher reliability, but not high availability.

Confluence Clustered is not for disaster recovery nor for transparent failover.

If one node crashes, there is no transparent failover for the connected client. Also, our network requirements (see below) make Confluence unsuitable for deployment to different cities or even to different buildings.

Server Setup
The number of supported cluster nodes is limited to four.

⚠️ Not supported. In theory, you can connect more than four nodes — but that is not covered by Atlassian Support.

All cluster nodes must have the same version of OS, application server, etc.

Confluence requires a homogeneous environment. All Confluence cluster nodes must have the same version of the following:

- Operating system
- CPU
- Installed memory
- Java
- Application server

⚠️ Note that ‘same version’ means ‘same to the last digit’. For example, Java v1.4.2_16 is not the same as v1.4.2_15

We strongly recommend user to have the same memory configuration (both the JVM and the physical memory) because a cluster uses a replicated cache. A replicated cache requires the same amount of memory on each node in the operating cluster. The memory allocations must be equal.

Use good and up-to-date hardware.

While the details are up to you, we strongly suggest that your servers have at least 4GB of physical RAM. A high number of concurrent users means that a lot of RAM will be consumed. You usually don't need to assign more than 4GB per JVM process, and most of the time even just 1GB or 2GB will be fine, you should just be prepared to fine tune the settings.

Confluence Clustered is not supported when run in VMware or other virtualisations.

⚠️ Not supported. We strongly discourage you to deploy a production environment of Confluence to virtual servers, and we will not be able to support you when problems arise.

When running a Confluence cluster your goal is high capacity and performance, so you should not risk lower performance by virtualising it and sharing a computer with other processes.

Many customers who are running Confluence on VMware, or similar virtualisation solutions, experience major performance problems that are extremely hard to pinpoint. Since the problems are not related to Confluence itself, we will not be able to help you.

Confluence should be the only application on the cluster servers.

No additional applications (other than core operating system services) should be running on the same servers as Confluence.

Since your goal should be increased capacity and performance, you should not risk this by running any other process on the machine with a
Confluence Clustered node. While it may be fine to run JIRA, Confluence and Bamboo on a dedicated Atlassian software server for small installations, it is strongly discouraged for clustering Confluence.

Do not upgrade and switch to Confluence Clustered at the same time

If you plan to migrate to a clustered solution, make sure you are migrating within the same version of Confluence. If you plan to upgrade to a higher version of Confluence, do this before the migration to the clustered version. For example, if you are currently running Confluence 2.9.2 standalone, and want to roll out the clustered version of Confluence 3.0, you must first upgrade to Confluence 3.0 standalone and check that everything works fine (e.g. by running and monitoring your production system for a week). Then you are in a good position to migrate to the clustered version.

Database Setup

Run the database on its own physical server.

You are optimising for performance, so you don't want the database to slow down your application servers, or vice versa. In high load scenarios, the database may need to have better hardware than the application servers to be able to handle all requests. You should find out by performing loadtesting.

Attachments must be stored in a database and not the local file system

Storing attachments in the database is the only supported attachment storage configuration for clustering Confluence.

Make sure that you use a supported version of a database server to store Confluence's data.

Please check that your intended database is officially supported by Atlassian Confluence. The load on an average cluster solution is higher than on a single box installation, and it is therefore even more crucial to use the right database vendor and version.

Your database must be provisioned to store a large volume of binary data.

Note that Confluence clustered stores file attachments in the database, and you need an experienced DBA who can monitor and manage the data growth.

You need an experienced DBA available to troubleshoot database performance issues.

Not having an experienced full-time DBA at hand at short notice when entering the realm of high load is dangerous. While small installations of Confluence basically work 'out of the box', anything that involves high load and a lot of database space requires continual monitoring, optimising and fine tuning of the Confluence database. When we ramp up the load on our loadtesting environment, we see that database usage goes up as well. Having powerful hardware in place helps, but if there are queries that become inefficient with your particular load pattern, you need an expert to tune it. As an example, we have seen PostgresSQL switch its internal caching mechanism when a particular table reached a certain size, which resulted in a drop of performance by about 200ms per request. This happened from one second to the other. Being able to troubleshoot and then fix issues like these is important in any enterprise system, but it is even more in a high load scenario.

Network Setup

We recommend hardware load balancers or putting a software loadbalancer onto its own server.

If you use a software load balancer (which is fine except for really extreme installations), it must be deployed on a machine of its own. Running a software load balancer on a cluster node is not supported. If a node unexpectedly got overwhelmed by a spike in load, a load balancer on that node would turn unresponsive. As a result, your whole cluster would be inaccessible even though the other nodes would be available. So using a different server is common practice and common sense.

Use separate network adapters for communication between servers.

The Confluence cluster nodes should have a separate physical network (i.e. separate NICs) for inter-server communication.

This is the best way of getting the cluster to run fast and reliably. Performance problems are likely to occur if you connect cluster nodes via a network that has lots of other data streaming through it.

The switch connecting the Confluence cluster nodes must not be a 'smart switch'.

⚠️ Not supported. Smart switches are not covered by Atlassian Support for Confluence Clustered.

Do not use smart switches between cluster nodes. Many problems have been reported and attributed to smart switches. They have a tendency to interrupt broadcast or multicast traffic, thus reliably killing a cluster after a certain amount of time has passed. This makes troubleshooting especially complex and tedious.

Cisco switches need additional configuration.

If the switch connecting the Confluence cluster nodes is a Cisco switch then it might need additional configuration to support Confluence clustering.

Please make sure you find out all the details about your switches before you start the deployment.

It is recommended that the database is on a different physical network from the Confluence server nodes.

Since you want to increase your capacity and performance for high loads, it is recommended to have your database on a different network. Please refer to the recommended topology diagram for more information.
Minimize the latency between the Confluence cluster nodes and the database.

Even though having the nodes and the database on the same physical network usually suffices, you should take the time to explicitly measure network latency, and make sure it is as close to zero as possible.

Prepare a network diagram.

To facilitate discussion and to ease planning, you should prepare a network diagram like this example of recommended network topology.

If you request support with Confluence Clustered, we may ask for your network diagram. We recommend that you create one similar to our example before you proceed with the installation.

You need network support staff available to troubleshoot cluster communication issues.

Setting up a cluster is not trivial. Even small problems in network design will be expanded in a clustered installation. (This is true of any kind of software.)

It is absolutely vital that you have dedicated network staff available to track down problems when they arise. A cluster will usually be used by thousands of users, and you don't want to keep them waiting because a network card breaks, or because someone made an undocumented change to the network and you don't have an expert around who can figure it out.

**Staging Environment**

You need a staging environment that is exactly the same as your production system.

You must be able to test drive any change to the cluster (installing upgrades, installing plugins) and to perform other tests (checking connectivity, debugging problems) on a staging cluster.

The staging environment must be:

- On the same OS, database, and Java version as your production environment.
- Clustered.

If you require support, we may for example ask you to turn off certain third-party plugins. If you can't do this in your production environment and you don't have a staging environment for troubleshooting, we may not be able to help you.

### Getting a license for your staging environment

**Only a technical contact for your commercial/academic license is able to create a Developer license**

Atlassian supplies 'developer' licenses which can be used by existing commercial license holders who wish to deploy non-production installations of our software to use in QA/staging environments. Developer licenses are free of charge to commercial license holders and, like our commercial offerings, they include 12 months of updates starting from the date of purchase of the commercial license.

If you hold a commercial license, you can obtain a free developer license by performing the following:

1. Log in to your Atlassian account.
2. Under the "Licenses" heading, all of your licenses will be displayed. Click the plus sign next to a license to view its details.
3. Click the 'View Developer License' link in the bottom right corner of the license detail panel, below your commercial license key.

### RELATED TOPICS

- Cluster Panic triggers
- How do I suppress cluster warning message in Confluence?
- Recommended network topology
- Upgrading a Confluence Cluster
- Cluster Troubleshooting
- Changing Datasources Manually in a Cluster
- Cluster Administration page
- Technical Overview of Clustering in Confluence
- Apache and Tomcat load balancing
People occasionally enquire about setting up High-Availability (HA) Confluence clusters. Confluence's clustering is designed to solve a different problem, that of scaling under high load. This page explains the difference.

On this page:
- What is High Availability (HA)?
- What does Confluence's clustering do, then?
- So what kind of resilience can I build into a Confluence installation?
- What's the difference between load balancing and failover?
- What do you mean by 'session affinity'?

What is High Availability (HA)?

HA means that your application will be available, without interruption. It's a very difficult thing to achieve, and is typically what people are talking about when they refer to five-nines availability.

In the context of application clustering, it means that any given node (or combination of nodes) can be shut down, blown up, or simply disconnected from the network unexpectedly, and the rest of the cluster will continue operating cleanly as long as at least one node remains. It requires that nodes can be upgraded individually while the rest of the cluster operates, and that no disruption will result when a node rejoins the cluster. It typically also requires that nodes be installed in geographically separate locations.

What does Confluence's clustering do, then?

Confluence's clustering system allows a single installation to serve a much greater number of concurrent requests than a single server. This is what we refer to as 'scaling under load'.

It does provide a certain amount of resilience, as the death of one node won't bring the other(s) down. However, it requires very low network latency, which rules out geographic separation of the servers, and upgrading can only be performed while the entire cluster is shut down. This doesn't mean that Confluence's clustering is buggy or broken. It simply reflects the difference between the two design aims.

So what kind of resilience can I build into a Confluence installation?

It's still entirely possible to build a resilient Confluence installation, using a 'cold-failover' approach in which two (or more) servers share a database and (normally) a network-mounted file system, where no more than one server is actually running at any given time.

Several different approaches are feasible, but the common elements are:
- a well-configured load balancer (session affinity is irrelevant in this case)
- a reliable monitoring system which can detect and shut down a misbehaving Confluence instance before starting the spare server
- startup scripts with added smarts to check for the presence of another running node before deciding whether to start up a server
- servers with the same view of both the database and the home directory.

\[important\]

It's vital to ensure that only one server is running at any one time, in this kind of setup. If a server starts while another is already running against the same database, the result will be a cluster panic that shuts down both servers.

A single database becomes the single point of failure in such a system. This can be alleviated by database clustering, or by replication from the 'active' database server to the standby server(s) if you wish to separate the failover systems while keeping database latency to a minimum.

In the same vein, the home directory can be hosted on a shared network system — SAN or NAS, preferably with its own replication/rapid recovery system — though there's a known issue to consider. Alternatively, to avoid the use of networked file systems, a utility such as rsync can be used to periodically bring the spare servers' home directories up to date, so long as you keep the period sufficiently short — probably between one and five minutes, depending on the rate of activity. This can be avoided altogether by keeping attachments in the database; it increases the demands on the bandwidth between the application and database servers, but guarantees that the system is in a consistent state at switchover. If the data is at all sensitive or confidential, it's advisable to run rsync over ssh, to minimise the opportunity for the data to be captured on its way across the network.

What's the difference between load balancing and failover?

Load balancing means that all servers are active, and new requests are distributed among them. Several strategies are available, but the most common are:

[115]
round-robin — the first request goes to the first server, the second request goes to the second server, and so on. When you run out of servers, the next request goes to the first server, and around it goes again.

percentage-based — if (for example) you have two servers, and one can handle twice the load of the other, you can tell the load balancer to send two requests to the stronger server for every request that goes to the weaker one.

availability — the load balancer sends a test query to each of the servers every second or so, and directs each new request to the server that's currently responding the fastest.

Failover means that only one server is active at any given time, and normally involves two servers (any number of servers may be involved, depending on the system). If the active one stops responding, requests are directed to the other server — the system 'fails over' to the second one.

'Cold failover' means that the second server is only started up after the first one has been shut down. This is the case for non-clustered Confluence.

'Hot failover' or 'hot standby' means that all servers are running at all times, and that the load is directed entirely toward one server at any one time.

A load balancer can be used in both scenarios, especially if it's smart enough to keep track of which servers are currently running.

Failover can also be managed via DNS, in a sufficiently well-controlled environment.

What do you mean by 'session affinity'? Sessions consist of several transmissions in each direction between the client (browser) and the server. Session affinity means that the load balancer keeps track of which server received the initial transmission from a given browser, and that it will then send any subsequent requests from that browser to the same server.

This is necessary with Confluence clustering, in particular, because sessions are not shared across cluster nodes. If you log into one node and then send a request to another, the other node will send you the login screen because it doesn't recognise your session cookie.

RELATED TOPICS
Confluence Clustering Overview

Cluster Troubleshooting

Clustering is vastly improved in Confluence 3.0. See the Confluence 3 Performance improvements page for more information. If you're having cluster performance problems in a version prior to Confluence 3, we suggest an upgrade!

Overview of clustering documentation
Refer to the overview of Confluence clustering.

On this page:
- Symptoms
- Confluence cluster debugging tools
  - Multicast
  - Mapping interface to IP address.
  - Debugging tools
  - Add multicast route
  - Check firewall
  - Prefer IPv4
  - Change multicast interface
  - Increase multicast TTL
  - Check intermediate routers
  - Advanced Tangosol configuration
- Didn't find a solution?
- Related

Symptoms
Below is a list of potential problems with a Confluence cluster, and their likely solutions. The solutions are listed below.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Likely solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database is being updated by an instance which is not part of the current cluster errors at startup</td>
<td>Add multicast route, Check firewall</td>
</tr>
</tbody>
</table>
Confluence 3.0 Documentation

<table>
<thead>
<tr>
<th>Cannot assign requested address on startup, featuring an IPv6 address</th>
<th>Prefer IPv4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error in log: The interface is not suitable for multicast communication</td>
<td>Change multicast interface, Add multicast route</td>
</tr>
<tr>
<td>Multicast being sent, but not received (detectable with Multicast Test)</td>
<td>Check firewall, Check intermediate routers, Increase multicast TTL</td>
</tr>
<tr>
<td>Any issue not covered here</td>
<td>Contact support</td>
</tr>
</tbody>
</table>

**Confluence cluster debugging tools**

There is an umbrella issue opened for all cluster debugging tools [here](#).

It includes the tools listed below.

**Multicast**

- Which multicast address?

The multicast address and port used by Confluence can be found on the [Cluster Administration page](#), or in `confluence.cfg.xml` in the Confluence home directory.

- Multicast address generation.

Confluence uses a hashing algorithm to take the inputted name during setup and it is then turned into a multicast address stored in the config file. Thus, once the initial setup is completed, Confluence will use the address this is the reason why user can change the address if needed, without actually changing the name. Consequently the additional nodes using the same multicast address specified in the config file are able to join the cluster.

Each node has a multicast address configured in the `confluence-cfg.xml` file

```
name="confluence.cluster.address">xxx.xx.xxx.xxx</property>
```

A warning message is displayed when an user changes the address from the one that Confluence has generated by the hashing of the name. There is no way of eliminating the message any other way other than by returning the address to the one that matches the cluster name. Purpose of the warning message is to remind the user that the address has been changed - as it is not the hashed version any longer - consequently the node can not join the cluster just by using the name. It is also necessary to provide the correct address as well.

**Mapping interface to IP address.**

To ensure that the interface name is mapped correctly, the following tool can be used. It shows the mapping of the interface name to the IP address.

```
C:\>java -jar list-interfaces.jar
interfaces.size() = 4
networkInterface[0] = name:lo (MS TCP Loopback interface) index: 1 addresses:
/127.0.0.1;

networkInterface[1] = name:eth0 (VMware Virtual Ethernet Adapter for VMnet8) index: 2 addresses:
/192.168.133.1;

networkInterface[2] = name:eth1 (VMware Virtual Ethernet Adapter for VMnet1) index: 3 addresses:
/192.168.68.1;

networkInterface[3] = name:eth2 (Broadcom NetXtreme 57xx Gigabit Controller - Packet Scheduler
Miniport) index: 4 addresses:
/192.168.0.101;
```

**Debugging tools**

Listed below are some debugging tools that help determine what the status of the multicast traffic is:

<table>
<thead>
<tr>
<th>Tool</th>
<th>Information provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>netstat -gn</td>
<td>Lists multicast groups. Does not work on Mac OS X.</td>
</tr>
<tr>
<td>netstat -rn</td>
<td>Lists system routing table.</td>
</tr>
<tr>
<td>Multicast Test</td>
<td>Coherence tool for testing multicast traffic from one node to another.</td>
</tr>
<tr>
<td>tcpdump -i interface</td>
<td>Captures network traffic on the given interface. Most useful on an interface that only receives cluster traffic.</td>
</tr>
</tbody>
</table>
Add multicast route

Multicast networking requirements vary across operating systems. Some operating systems require little configuration, while some require the multicast address to be explicitly added to a network interface before Confluence can use it.

If the Multicast Test tool shows that multicast traffic can't be sent or received correctly, adding a route for multicast traffic on the correct interface will often fix the problem. The example below is for a Ubuntu Linux system:

```bash
route add -net 224.0.0.0 netmask 240.0.0.0 dev eth0
```

To support multiple applications using multicast on different interfaces, you may need to specify a route specific to the Confluence multicast address.

Check firewall

Ensure your firewall allows UDP traffic on the multicast address and port used by Confluence.

Prefer IPv4

There's a known issue with IPv6, especially on Linux.

The fix is to add `-Djava.net.preferIPv4Stack=true` to JAVA_OPTS. This tells the JVM to try binding an IPv4 address first, and resort to IPv6 only if that fails.

Note: A more radical approach is to add `NETWORKING_IPV6=no` to `/etc/sysconfig/network`, yet probably should be left for a later consideration on a production machine.

Change multicast interface

Confluence might have selected the incorrect interface for multicast traffic, which means it cannot connect to other nodes in the cluster. To override the interface used for multicast traffic after initial setup, edit `confluence.cfg.xml` in the Confluence home directory and add a property (or change the existing one) to select your desired network interface. For example to tell Confluence to use `eth1`:

```xml
<property name="confluence.cluster.interface">eth1</property>
```

Increase multicast TTL

The multicast time-to-live (TTL) specifies how many hops a multicast packet should be allowed to travel before it is discarded by a router. It should be set to the number of routers in between your clustered nodes: 0 if both are on the same machine, 1 if on two different machines linked by a switch or cable, 2 if on two different machines with one intermediate router, and so on.

Create a file in the Confluence home directory called `tangosol-coherence-override.xml`. Add the following to it, setting the TTL value appropriately (1 is the default):

```xml
<?xml version='1.0'?>
<coherence>
  <cluster-config>
    <multicast-listener>
      <time-to-live system-property='tangosol.coherence.ttl'>1</time-to-live>
    </multicast-listener>
  </cluster-config>
</coherence>
```

Alternatively, simply start Confluence with the system property `-Dtangosol.coherence.ttl=1`. Again, 1 is the default value, and you should change it to something appropriate to your network topology.

Check intermediate routers

Advanced switches and routers have the ability to understand multicast traffic, and route it appropriately. Unfortunately sometimes this functionality doesn't work correctly with the multicast management information (IGMP) published by the operating system running Confluence.

If multicast traffic is problematic, try disabling advanced multicast features on switches and routers in between the clustered nodes. These features can prevent multicast traffic being transmitted by certain operating systems.

For best results, use the simplest network topology possible for the cluster traffic between the nodes. For two nodes, that means a single network cable. For larger numbers, try using a single high-quality switch.
Advanced Tangosol configuration

If the solution to your problem involves changes to the Tangosol configuration, these changes should not be made to the Confluence configuration in confluence/WEB-INF/classes/. Instead, to ensure your configuration survives upgrades, make your changes via:

- Tangosol system properties
- creating a tangosol-coherence-override.xml file in the Confluence home directory.

Examples of making these changes are shown in the increasing the TTL section.

Didn't find a solution?

Check Related Articles from the Confluence Knowledge Base

- Cluster Panic triggers
- How do I suppress cluster warning message in confluence?
- Recommended network topology
- Upgrading a Confluence Cluster
- Cluster Troubleshooting
- Changing Datasources Manually in a Cluster
- Cluster Administration page
- Technical Overview of Clustering in Confluence
- Apache and Tomcat load balancing
- Cluster safety mechanism
- Confluence Cluster Installation
- Viewing and Editing License Details
- Confluence Clustering Overview

Open JIRA Features and Bug Reports

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

### JIRA Issues (44 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-8959</td>
<td>Attachment migration does not happen when upgrading to a clustered license</td>
<td>Unassigned</td>
<td>Nicholas Ilacqua [Atlassian]</td>
<td></td>
<td>Open</td>
<td>Unresolved</td>
<td>Jul 19, 2007</td>
<td>Jul 02, 2009</td>
<td></td>
</tr>
<tr>
<td>CONF-9297</td>
<td>Confluence should be able to automatically recover from cluster panics</td>
<td>Unassigned</td>
<td>Gary Weaver</td>
<td></td>
<td>Open</td>
<td>Unresolved</td>
<td>Aug 27, 2007</td>
<td>Mar 25, 2009</td>
<td></td>
</tr>
<tr>
<td>CONF-12287</td>
<td>Coherence cache fails while retrieving profile picture metadata (dashboard or view page shows UnexpectedRollbackException)</td>
<td>Unassigned</td>
<td>Matt Ryall [Atlassian]</td>
<td></td>
<td>Open</td>
<td>Unresolved</td>
<td>Jul 01, 2008</td>
<td>Nov 02, 2009</td>
<td></td>
</tr>
<tr>
<td>Issue Key</td>
<td>Description</td>
<td>Assignee</td>
<td>Status</td>
<td>Priority</td>
<td>Resolution</td>
<td>Created</td>
<td>Updated</td>
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<td>-----------</td>
<td>------------------------------------------------------------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CONF-12486</td>
<td>on cluster node startup</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>2008</td>
<td>2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10325</td>
<td>Viewing the members of a group in a clustered environment works only on one node and not the other.</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Dec 27, 2007</td>
<td>Jul 02, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9594</td>
<td>ConditionalPropertySet's cannot be cached breaking cluster installations that delegate user management to JIRA</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Sep 28, 2007</td>
<td>Jul 02, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14657</td>
<td>Retrieving the global settings in a clustered environment causes a lot of contention</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Feb 21, 2009</td>
<td>Oct 26, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10668</td>
<td>Node that can not join cluster due to license restriction causes cluster panic</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Feb 29, 2008</td>
<td>Sep 03, 2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-16419</td>
<td>Installing a font for PDF export in a cluster will not carry to cluster nodes that are down or unavailable.</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Jul 20, 2009</td>
<td>Aug 05, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14948</td>
<td>Support failover NICs for cluster configuration...</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Mar 19, 2009</td>
<td>Mar 19, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10323</td>
<td>Coherence Lock being held when it appears no thread should have the lock. Causes ConcurrentModificationException</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Dec 26, 2007</td>
<td>Sep 17, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-12345</td>
<td>Park issue :)</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Jul 07, 2008</td>
<td>Jan 21, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9040</td>
<td>Authenticator (subclass of DefaultAuthenticator) can be called twice at almost exactly same time by 2 or more clustered servers</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Jul 30, 2007</td>
<td>Nov 04, 2007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14045</td>
<td>Cluster mysql tests corrupts the database</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Dec 21, 2008</td>
<td>Jan 08, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-13421</td>
<td>Layout customisations are not propagated to other cluster nodes</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Oct 16, 2008</td>
<td>Dec 09, 2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14076</td>
<td>SchedulerException when running cluster builds</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Dec 29, 2008</td>
<td>Jan 01, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9335</td>
<td>In cluster, allow attachments to be stored on file system in network-shared directory</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Aug 29, 2007</td>
<td>Oct 14, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10953</td>
<td>Support unicast addressing in cluster when well-known-addresses WKA are defined</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Mar 06, 2008</td>
<td>Aug 25, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10981</td>
<td>Check how many nodes/processes running in a cluster and their identity</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Mar 06, 2008</td>
<td>Mar 06, 2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-12421</td>
<td>Don't use distributed cache for storing Captcha's in a cluster</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Jul 13, 2008</td>
<td>Jul 13, 2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9749</td>
<td>Coherence does not allow the disabling of all JDK shutdown hooks</td>
<td>Unassigned</td>
<td>Open Unresolved</td>
<td></td>
<td></td>
<td>Oct 17, 2007</td>
<td>Jan 29, 2008</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In almost all cases, cluster panic events are caused by two or more instances of Confluence (in separate clusters) updating the same database.
database. Such events are typically caused by one of the following issues:

JVM paused (e.g. while swapping memory) can break communication between two nodes

Always watch the swapping activity of your server and avoid swapping due to lack of RAM. If there is not enough RAM available, your server may start swapping out some of Confluence's heap data to your hard disk. This will slow down the JVM's garbage collection (GC) considerably and affect Confluence's performance.

- In clustered installations, swapping can lead to cluster panic. This is because swapping causes the JVM to pause during garbage collection, which in turn can break the inter-node communication required to keep the clustered nodes in sync.

Two instances of Confluence have been started in your application server

This is one of the most commonly encountered issues. The strangest case of this that we have seen so far involved a cloned image of a PC running Confluence that was later used in a remote office in a different city. The people using Confluence on the cloned instance were not aware that the original Confluence instance was also running and that both these Confluence instances were using the same production database server.

- Solution: Check your application server's configuration to make sure that multiple copies of the application server are not running concurrently. Database transaction logs can help identify the location of other application servers, if client IP addresses are recorded along with each transaction.

Two copies of your application server are running.

Sometimes starting an application server twice will result in two processes running, even though only one can be accessed over the network.

- Solution: Check a list of running processes (for example, with the 'ps' command in Posix-based operating systems like Linux, Unix and Mac OS X) and make sure your application server is only running once.

Networking failure between nodes in the cluster

- Solution: Check that multi-cast traffic is being transmitted successfully, and that the network between your nodes is low-latency (<100 ms).

Database server stops responding

If Coherence fails to retrieve the SafetyNumber from the database, the comparison will fail. If it fails to update it, the next comparison will fail, 30 seconds later.

Many things can cause this, including a scheduled shutdown for backups, network failure, a filled-up transaction-log partition and a changed password on the account used by Confluence to connect to the database.

- Solution: resolve the problem with the database (or network), then restart Confluence

In all cases, when starting Confluence after a cluster panic, you must ensure all cluster nodes have been shut down completely. If necessary, use commands like `ps` and `kill` to get a list of Java processes and terminate them manually.

**Please visit this document for troubleshooting advice if you encounter any of the above situations.**

### Multicast Test

This page describes the Multicast Test, a Coherence tool for testing multicast traffic from one node to another. You may find this useful when troubleshooting a clustered installation of Confluence.

In order to run the Multicast test, you need to first download the attached Coherence zip file.

The Multicast Test comes as a script called multicast-test, which you will find located in the bin folder in the above zip file.

Instructions on how to run this script file can be found in the Coherence documentation. You may like to go straight to the subheading called ‘Example’ in the guide, where there is an example on how to use the multicast-test script.

**RELATED TOPICS**

- Cluster Troubleshooting
- Confluence Clustering Overview

### Disabling a Cluster

**Recommended Approach**

Run the Migrating Confluence Between Servers procedure for a new stand-alone configuration with the data imported.

**Possible Hack**
Another option to run standalone mode (disable the clustered cache) with a cluster license is to set cluster property to false in the confluence.cfg.xml and restart confluence.

For example:
<property name="confluence.cluster">false</property>

Atlassian has tested this and it works, but it is not fully tested. As always, backup your database and confluence home directory before making any modification (as this is not the recommended approach).

To check to see if clustering has been disabled, look in the logs after the xml during startup.

In your catalina.out, you'll have:

```
INFO [main] [confluence.cluster.tangosol.TangosolClusterManager] startCluster Bringing up cluster service
```

This line won't exist if you start it up with the configuration above.

**Recommended network topology**

Atlassian recommends a network topology similar to the one shown below, to get the best results from a Confluence Clustered deployment.

The number of Confluence nodes in the deployment is adjustable — select the number which suits your own requirements.

The most important aspect is that cluster, database and HTTP (client) traffic are all carried on separate subnets. It is possible, on a sufficiently fast network, to carry cluster and database traffic on the same subnet but we do strongly recommend that HTTP traffic be always confined to a separate subnet on production deployments.

Confluence Clustered does not support clustered communication over WAN, VLAN or VPN. All Confluence Clustered nodes must be on the same local subnet, ideally networked via an ethernet hub or simple switch. The cluster communication network must also support multicast IP networking.

**Use this example as a basis for your own network diagram**

When you are considering a Confluence Clustered deployment, you should prepare a network diagram like the one on this page. This will facilitate discussion with Atlassian Support and help with your own planning. Please refer to the cluster checklist for more guidance on planning your clustered deployment.
Confluence Security

As a public-facing web application, Confluence’s application-level security is obviously important. This document answers a number of questions that commonly arise when customers ask us about the security of our product.

This document is for system administrators looking to evaluate the security of the Confluence web application. It does not address Confluence’s internal security model (user/group management and content permissions), except as it relates to the overall application security. For information about user management, groups and permissions, please refer to the internal security overview.

On this page:

- Application Security Overview
Application Security Overview

Password Storage

When Confluence's internal user management is used, passwords are hashed through SHA1 before being stored in the database. There is no mechanism within Confluence to retrieve a user's password – when password recovery is performed, a new random password is generated and mailed to the user's registered address.

When external user management is enabled, password storage is delegated to the external system.

Buffer Overflows

Confluence is a 100% pure Java application with no native components. As such it is highly resistant to buffer overflow vulnerabilities – possible buffer overruns are limited to those that are bugs in the Java Runtime Environment itself.

SQL Injection

Confluence interacts with the database through the Hibernate Object-Relational mapper. Database queries are generated using standard APIs for parameter replacement rather than string concatenation. As such, Confluence is highly resistant to SQL injection attacks.

Script Injection

Confluence is a self-contained Java application and does not launch external processes. As such, it is highly resistant to script injection attacks.

Cross-Site Scripting

As a content-management system that allows user-generated content to be posted on the web, precautions have been taken within the application to prevent cross-site scripting attacks:

- The wiki markup language in Confluence does not support dangerous HTML markup
- Macros allowing the insertion of raw HTML are disabled by default
- HTML uploaded as a file attachment is served with a content-type requesting the file be downloaded, rather than being displayed inline
- Only system administrators can make HTML-level customisations of the application

When cross-site scripting vulnerabilities are found in the Confluence web application, we endeavour to fix them as quickly as possible.

Transport Layer Security

Confluence does not directly support SSL/TLS. Administrators who are concerned about transport-layer security should set up SSL/TLS at the level of the Java web application server, or the HTTP proxy in front of the Confluence application.

For more information on configuring Confluence for SSL, see: Adding SSL for Secure Logins and Page Security

Session Management

Confluence delegates session management to the Java application server in which it is deployed. We are not aware of any viable session-hijacking attacks against the Tomcat application server shipped with Confluence Standalone. If you are deploying Confluence in some other application server, you should ensure that it is not vulnerable to session hijacking.

Plugin Security

Administrators install third party plugins at their own risk. Plugins run in the same virtual machine as the Confluence server, and have access to the Java runtime environment, and the Confluence server API.

Administrators should always be aware of the source of the plugins they are installing, and whether they trust those plugins.
Administrator Trust Model

Confluence is written under the assumption that anyone given System Administrator privileges is trusted. System administrators are able, either directly or by installing plugins, to perform any operation that the Confluence application is capable of.

As with any application, you should not run Confluence as the root/Administrator user. If you want Confluence to listen on a privileged network port, you should set up port forwarding or proxying rather than run Confluence with additional privileges. The extra-careful may consider running Confluence inside a chroot jail.

Stack Traces

To help debug support cases and provide legendary support, Confluence provides stack traces through the web interface when an error occurs. These stack traces include information about what Confluence was doing at the time, and some information about your deployment server.

Only non-personal information is supplied such as operating system and version and Java version. With proper network security, this is not enough information to be considered dangerous. No usernames or passwords are included.

Finding and Reporting a Security Vulnerability

If you find a security bug in Confluence, please open an issue on http://jira.atlassian.com in the Confluence project.

- Set the priority of the bug to 'Blocker'.
- Provide as much information on reproducing the bug as possible.
- Set the security level of the bug to 'Developer and Reporters only'.

All communication about the vulnerability should be performed through JIRA, so that we can keep track of the issue and get a patch out as soon as possible.

Publication of Confluence Security Advisories

When a security issue in Confluence is discovered and resolved, we will inform customers through the following mechanisms:

- A security advisory will be posted on this page.
- A copy of the advisory will be sent to the confluence-users and confluence-announce mailing-lists (subscribe here). These lists are mirrored on our forums.
- If the person who reported the issue wants to publish an advisory through some other agency (for example, CERT), we'll assist in the production of that advisory, and link to it from our own.

Severity Levels

Atlassian security advisories include a severity level, rating the vulnerability as one of the following:

- Critical
- High
- Moderate
- Low

Below is a summary of the factors which we use to decide on the severity level, and the implications for your installation.

Severity Level: Critical

We classify a vulnerability as critical if most or all of the following are true:

- Exploitation of the vulnerability results in root-level compromise of servers or infrastructure devices.
- The information required in order to exploit the vulnerability, such as example code, is widely available to attackers.
- Exploitation is usually straightforward, in the sense that the attacker does not need any special authentication credentials or knowledge about individual victims, and does not need to persuade a target user, for example via social engineering, into performing any special functions.

Severity Level: High

We give a high severity level to those vulnerabilities which have the potential to become critical, but have one or more mitigating factors that make exploitation less attractive to attackers.

For example, given a vulnerability which has many characteristics of the critical severity level, we would give it a level of high if any of the following are true:

- The vulnerability is difficult to exploit.
- Exploitation does not result in elevated privileges.
- The pool of potential victims is very small.

Note: If the mitigating factor arises from a lack of technical details, the severity level would be elevated to critical if those details later became available. If your installation is mission-critical, you may want to treat this as a critical vulnerability.
Severity Level: Moderate

We give a moderate severity level to those vulnerabilities where the scales are slightly tipped in favour of the potential victim.

The following vulnerabilities are typically rated moderate:

- Denial of service vulnerabilities, since they do not result in compromise of a target.
- Exploits that require an attacker to reside on the same local network as the victim.
- Vulnerabilities that affect only nonstandard configurations or obscure applications.
- Vulnerabilities that require the attacker to manipulate individual victims via social engineering tactics.
- Vulnerabilities where exploitation provides only very limited access.

Severity Level: Low

We give a low severity level to those vulnerabilities which by themselves have typically very little impact on an organisation's infrastructure.

Exploitation of such vulnerabilities usually requires local or physical system access. Exploitation may result in client-side privacy or denial of service issues and leakage of information about organisational structure, system configuration and versions, or network topology.

Our Patch Policy

When a security issue is discovered, we will endeavour to:

- issue a new, fixed Confluence version as soon as possible
- issue a patch to the current stable version of Confluence
- issue patches for older versions of Confluence if feasible

Patches will generally be attached to the relevant JIRA issue.

Published Security Advisories

- Confluence Community Security Advisory 2006-01-19
- Confluence Security Advisory 2005-02-09
- Confluence Security Advisory 2005-12-05
- Confluence Security Advisory 2006-01-20
- Confluence Security Advisory 2006-01-23
- Confluence Security Advisory 2006-06-14
- Confluence Security Advisory 2007-07-26
- Confluence Security Advisory 2007-08-08
- Confluence Security Advisory 2007-11-19
- Confluence Security Advisory 2007-11-27
- Confluence Security Advisory 2007-12-14
- Confluence Security Advisory 2008-01-24
- Confluence Security Advisory 2008-03-06
- Confluence Security Advisory 2008-03-19
- Confluence Security Advisory 2008-05-21
- Confluence Security Advisory 2008-07-03
- Confluence Security Advisory 2008-09-08
- Confluence Security Advisory 2008-10-14
- Confluence Security Advisory 2008-12-03
- Confluence Security Advisory 2009-01-07
- Confluence Security Advisory 2009-02-18
- Confluence Security Advisory 2009-04-15
- Confluence Security Advisory 2009-06-01
- Confluence Security Advisory 2009-06-16
- Confluence Security Advisory 2009-08-20
- Confluence Security Advisory 2009-10-06

Related Server Security Pages

- Adding SSL for Secure Logins and Page Security
- Confluence Permissions Architecture
- How do I tell if a user has permission to...?
- Confluence Security Advisory 2006-01-23
Confluence Community Security Advisory 2006-01-19

This security advisory is not endorsed by Atlassian - this is a public service advisory from a member of the confluence community. Please remember to backup any modified files, and use these instructions at your own risk. While this information is based on Confluence v2.1.2, it may have uses with older affected versions of Confluence. The official security advisory is located at Confluence Security Advisory 2006-01-20

Problem

There is a possibility of XSS exploitation of the Full Name user profile field when displayed.

Solution

The problem was unescaped outputting of the fullname - wrapping the output in $generalUtil.htmlEncode() resolve it. The vast majority of the problem can be resolved by changing /confluence/template/includes/macros.vm in the distribution on the following lines:

- 180
- 186
- 200
- 340
- 893

I have attached the modified macros.vm file here which you can copy into your distribution.

Scope

There are other places which are still affected which Atlassian have been made aware of, a complete resolution should be provided by Atlassian in their own official advisory.

I hope this helps some of you!

Confluence Security Advisory 2005-02-09

A flaw has been found in Confluence by which attackers can bypass Confluence security and change content on the site. Atlassian STRONGLY recommends that all Confluence customers apply the fix described below immediately, or upgrade to Confluence 1.3.3

Vulnerability

By crafting custom URLs, any person with the ability to browse Confluence can modify content on the site, bypassing security settings. This
vulnerability does not allow users to view content they would not normally be able to view, or escalate their privileges in other ways.

This flaw affects all versions of Confluence prior to 1.3.3, including the 1.4-DR development releases.

**Fix**

This vulnerability is fixed in Confluence 1.3.3 and later. Customers who do not wish to migrate to 1.3.3 can fix this bug using the procedure below:

1. Edit the file `confluence/WEB-INF/classes/xwork.xml`
2. Find the following section near the top of the file (around line 34):

   ```xml
   <interceptor-stack name="defaultStack">
     <interceptor-ref name="profiling">
       <param name="location">before defaultStack</param>
     </interceptor-ref>
     <interceptor-ref name="transaction"/>
     <interceptor-ref name="authentication"/>
     <interceptor-ref name="requestParameterHack"/>
     <interceptor-ref name="eventnotifier"/>
     <interceptor-ref name="autowire"/>
     <interceptor-ref name="params"/>
     <interceptor-ref name="servlet"/>
     <interceptor-ref name="pageAware"/>
     <interceptor-ref name="permissions"/>
     <interceptor-ref name="profiling">
       <param name="location">After defaultStack</param>
     </interceptor-ref>
     <interceptor-ref name="autowire"/>
   </interceptor-stack>
   ``

3. Locate the "autowire" and "params" entries:

   ```xml
   <interceptor-ref name="eventnotifier"/>
   -->
   <interceptor-ref name="autowire"/>
   -->
   <interceptor-ref name="params"/>
   -->
   <interceptor-ref name="servlet"/>
   ```

4. Swap the two lines around. The whole stack should now look like this:

   ```xml
   <interceptor-stack name="defaultStack">
     <interceptor-ref name="profiling">
       <param name="location">before defaultStack</param>
     </interceptor-ref>
     <interceptor-ref name="transaction"/>
     <interceptor-ref name="authentication"/>
     <interceptor-ref name="requestParameterHack"/>
     <interceptor-ref name="eventnotifier"/>
     <interceptor-ref name="autowire"/>
     <interceptor-ref name="params"/>
     <interceptor-ref name="servlet"/>
     <interceptor-ref name="pageAware"/>
     <interceptor-ref name="permissions"/>
     <interceptor-ref name="profiling">
       <param name="location">After defaultStack</param>
    </interceptor-stack>
   ```

5. Restart Confluence.

**Confluence Security Advisory 2005-12-05**

A flaw has been found in Confluence by which attackers can inject malicious HTML code into Confluence. Atlassian STRONGLY recommends that all Confluence customers apply the fix described below immediately, or upgrade to Confluence 2.0.2

**Vulnerability**

By entering HTML code into the Confluence search input fields, attackers can cause arbitrary scripting code to be executed by the user's browser in the security context of the Confluence instance.

This flaw affects all versions of Confluence between 1.4-DR releases and 2.0.1.

(Atlassian was not informed of the problem before it was published by third-party security researchers. You can read the third-party security advisory here: http://secunia.com/advisories/17833/. The vulnerability was originally reported here.)

**Fix**
This vulnerability is fixed in Confluence 2.0.2 and later. Customers who do not wish to migrate to 2.0.2 can fix this bug using the procedure below:

1. Edit the confluence/decorators/components/searchresults.vmd
   2. Replace the following reference (around line 48):

   ```
   $action.getText("search.result", [$start, $end, $total, $queryString])
   ```
   with

   ```
   $action.getText("search.result", [$start, $end, $total, $generalUtil.escapeXml($queryString)])
   ```

3. Edit the confluence/search/searchsite-results.vm.
   4. Replace the following reference (around line 11):

   ```
   Searched for <b>$action.searchQuery.queryString</b>
   ```
   with

   ```
   Searched for <b>$generalUtil.escapeXml($action.searchQuery.queryString)</b>
   ```

5. Restart Confluence.

Alternatively, you can download the patched source files from CONF-4825. If you are patching a 2.0.x installation, then use the files with the .2.0 suffix. If you are patching a 1.4.x installation, then use the files with the .1.4 suffix.

Confluence Security Advisory 2006-01-20

A flaw has been found in Confluence by which attackers to inject malicious HTML code into Confluence. Atlassian STRONGLY recommends that all Confluence customers apply the fix described below immediately, or upgrade to Confluence 2.1.3.

Vulnerability

By entering HTML/JavaScript code into the full name of a user's profile, attackers can cause arbitrary scripting code to be executed by the user's browser in the security context of the Confluence instance.

This flaw affects all versions of Confluence between 1.4-DR releases and 2.1.2.

This issue was initially reported by Ricardo Sueiras and a fix was quickly documented by Dan Hardiker at the Confluence Community Security Advisory 2006-01-19 page. Our thanks to them for bringing this to our attention.

There is an issue in JIRA at CONF-5233.

Fix

This vulnerability is fixed in Confluence 2.1.3 and later. Customers who do not wish to migrate to 2.1.3 can fix this bug using the procedure below:

Steps to fix:

1. Copy macros.vm to your confluence/template/includes folder
2. Restart Confluence

Note: If you are using version 1.4.4, please download and copy this file instead. You will need to rename it back to macros.vm.

If you are not using any of the above versions, you will need to replace wrap calls to display full names of users in $generalUtil.htmlEncode(). Alternatively, send us an email. We do however encourage you to use the latest stable point release regardless of the version you are using.

Confluence Security Advisory 2006-01-23

A flaw has been found in Confluence by which the unrestricted content of a space can be revealed in search results.
**Vulnerability**

By entering in a space key and blank query string into the Search macro, pages from the specified space will be displayed, without filtering on page and space permissions. This can allow unpermitted users to view the excerpts of pages they don't have access to.

This flaw is confirmed to affect all releases from 1.4 to 2.1.2.

More information is available at CONF-5189.

**Fix**

This vulnerability is fixed in Confluence 2.1.3 and later. We strongly suggest that customers upgrade to this release to fix the vulnerability. Customers who are using 1.4.x and do not wish to upgrade can download a patched class from CONF-5198.

---

**Confluence Security Advisory 2006-06-14**

**Vulnerability**

By crafting a custom HTTP request, an attacker can delete or modify global permissions settings on a Confluence site.

This flaw affects all Confluence versions between 1.4 and 2.2.2. 2.2.3 and later are not vulnerable.

**Fix**

This issue has been fixed in Confluence 2.2.3. Patches are also available for all versions of Confluence between 1.4 and 2.2.2. For more information, please see this issue report.

Atlassian STRONGLY recommends that all customers either upgrade to Confluence 2.2.3, or apply the patch.

---

**Confluence Security Advisory 2007-07-26**

In this advisory:

- Users with view permission in a space can copy and save a page
- Space name and key are not validated nor escaped

**Users with view permission in a space can copy and save a page**

**Vulnerability**

A user who has only view permissions in a space can copy a page and then save it in the space. In this way, users can create a page in a space where they have only view permission.

This flaw affects only Confluence version 2.5.4.

**Fix**

This issue has been fixed in Confluence 2.5.5. A patch is also available for Confluence 2.5.4. For more information, including instructions on applying the patch, please see this issue report.

If you are using Confluence 2.5.4, Atlassian strongly recommends that you upgrade to Confluence 2.5.5 or apply the patch.

**Space name and key are not validated nor escaped**

**Vulnerability**

The input for space name and key is not validated properly - any characters are allowed. This makes a Confluence instance vulnerable to an XSS attack.

**Fix**

This issue has been fixed in Confluence 2.5.5. For more information, please see this issue report.

Atlassian recommends that you upgrade to Confluence 2.5.5.

---

**Confluence Security Advisory 2007-08-08**

In this advisory:

- Input in the RSS Feed Builder is not validated
Input when editing Space Permissions is not validated

Vulnerability

The input for the RSS Feed Builder is not required to be escaped. This can make a Confluence instance vulnerable to an XSS attack.

Fix

This issue has been fixed in Confluence 2.5.6. For more information, please see CONF-8993.

Atlassian recommends that you upgrade to Confluence 2.5.6.

Input when editing Space Name is not validated

Vulnerability

The 'Grant permission to' field on the 'Edit Space Permissions' screen is not validated. This can make a Confluence instance vulnerable to an XSS or DoS attack.

Fix

This issue has been fixed in Confluence 2.5.6. For more information, please see CONF-8980 and CONF-8979.

Atlassian recommends that you upgrade to Confluence 2.5.6.

Number of labels that can be added to a page is not restricted

Vulnerability

There is no restriction on the number of labels that can be added to a page at a time. This can make a Confluence instance vulnerable to a DoS attack.

Fix

This issue has been fixed in Confluence 2.5.6. For more information, please see CONF-8978.

Atlassian recommends that you upgrade to Confluence 2.5.6.

Input when editing navigation themes is not validated

Vulnerability

The 'Navigation Page' specified in the 'Left Navigation Theme' configuration is not validated. This can make a Confluence instance vulnerable to an XSS attack.

Fix

This issue has been fixed in Confluence 2.5.6. For more information, please see CONF-8956.

Atlassian recommends that you upgrade to Confluence 2.5.6.

Viewing of space content alphabetically is not validated

Vulnerability

When viewing space content by alphabetic character, the input is not validated as being alphabetic. This can make a Confluence instance vulnerable to an XSS attack.

Fix

This issue has been fixed in Confluence 2.5.6. For more information, please see CONF-8952.

Atlassian recommends that you upgrade to Confluence 2.5.6.

Input when viewing attachments by file-type is not validated
Vulnerability
The 'Name' field on the 'Edit Space Details' screen is not validated. This can make a Confluence instance vulnerable to an XSS attack.

Fix
This issue has been fixed in Confluence 2.5.6. For more information, please see CONF-8951.

Atlassian recommends that you upgrade to Confluence 2.5.6.

Input when viewing attachments by file-type is not validated

Vulnerability
The 'Filter By Extension' field on the 'List Space Attachments' screen is not validated. This can make a Confluence instance vulnerable to an XSS attack.

Fix
This issue has been fixed in Confluence 2.5.6. For more information, please see CONF-8950.

Atlassian recommends that you upgrade to Confluence 2.5.6.

Confluence Security Advisory 2007-11-19

In this advisory:

- DWR debug mode enabled
- XSS vulnerability in exception error page
- XSS vulnerability in the URL destination for the print icon
- XSS vulnerability in wiki markup for images

Atlassian recommends that you upgrade to Confluence 2.6.1 to fix the vulnerabilities described below.

DWR debug mode enabled

Vulnerability
Debug mode was enabled by default on Direct Web Remoting (DWR). This made it easy for a potential attacker to find information about available AJAX request handlers in Confluence.

Fix
This issue has been fixed in Confluence 2.6.1. If you do not wish to upgrade at this time, you can fix the problem by editing your <confluence install>/confluence/WEB-INF/web.xml file. For more information, please see CONF-9718.

XSS vulnerability in exception error page

Vulnerability
The attributes and parameters were not escaped on the Confluence exception error page. This is a potential vulnerability to a cross-site scripting attack.

Fix
This issue has been fixed in Confluence 2.6.1. For more information, please see CONF-9704 and CONF-9560.

XSS vulnerability in the URL destination for the print icon

Vulnerability
The print icon on the HTTP 404 error page uses the path of the requested URL, which potentially contains malicious JavaScript. The 404 page did not correctly escape it. This is a potential vulnerability to a cross-site scripting attack.

Fix
This issue has been fixed in Confluence 2.6.1. A patch is supplied for customers with Confluence version 2.6 who do not wish to upgrade at this time. For more information, please see CONF-9456.

XSS vulnerability in wiki markup for images

Vulnerability
When using image URLs in wiki markup, quotes were not correctly escaped. This is a potential vulnerability to a cross-site scripting attack.

**Fix**

This issue has been fixed in Confluence 2.6.1. For customers with Confluence 2.6 who do not wish to upgrade at this time, the new atlassian-renderer JAR should resolve this issue. For more information, please see CONF-9209.

### Confluence Security Advisory 2007-11-27

In this advisory:

- XSS Type 2 Vulnerabilities in Macros and Wiki Markup
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

#### XSS Type 2 Vulnerabilities in Macros and Wiki Markup

**Severity**

Atlassian rates this vulnerability as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

**Risk Assessment**

We have identified and fixed some security flaws which may affect Confluence instances in a public environment. These flaws are XSS (cross-site scripting) vulnerabilities in some of Confluence's macros and Wiki Markup, which potentially allow a malicious user (hacker) to insert their own HTML tags or script into a Confluence page.

- The hacker might take advantage of this flaw to steal other users' session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker's text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your company's reputation.

Atlassian recommends that you upgrade to Confluence 2.6.2 to fix the vulnerabilities described below.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

**Risk Mitigation**

If you judge it necessary, you can disable public access (e.g. anonymous access and public signon) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups only.

**Vulnerability**

The following macros are affected:

- `{color}`
- `{panel}`
- `{section}`
- `{column}`
- `{code}`

The Wiki Markup for inserting images (e.g. ![myImage.png]) is also vulnerable to XSS exploitation.

**Fix**

The fix is to escape all user input, so that no user input is interpreted as HTML or CSS. In some cases we also perform stricter validation on the range of values a user can supply in an attribute.

These issues have been fixed in Confluence 2.6.2. For more information, please see CONF-9350.

---

Our thanks to [Igor Minar](mailto:igor.minar@atlassian.com), who reported this issue to Atlassian. We fully support the reporting of vulnerabilities and we appreciate his working with us towards identifying and solving the problem.

Please let us know what you think of the format of this security advisory and the information we have provided.

### Confluence Security Advisory 2007-12-14

In this advisory:
XSS Vulnerability in Configure RSS Feed Action

Severity
Atlassian rates this vulnerability as **high**, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment
We have identified and fixed a security flaw which may affect Confluence instances in a public environment. This flaw is an XSS (cross-site scripting) vulnerability in a Confluence action, which potentially allows a malicious user (hacker) to embed their own JavaScript into a Confluence page.

- The hacker might take advantage of this flaw to steal other users' session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker's text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your company's reputation.

To fix the vulnerabilities described below, Atlassian recommends that you take one of the following steps:

- Upgrade to Confluence 2.7, or
- Download and install the patch for Confluence 2.5.8 or Confluence 2.6.2 from our JIRA site – see issue CONF-10164.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

Risk Mitigation
If you judge it necessary, you can disable public access (e.g. anonymous access and public signon) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups only.

Vulnerability
A hacker can inject their own JavaScript into the following Confluence action:

```
http://www.anyhost.com/confluence/dashboard/configurerssfeed.action
```

The above Confluence action is used to build an RSS feed based on your Confluence pages and news items. The action is invoked when a selects 'Feed Builder' from your Confluence Dashboard. It can also be invoked by simply entering the URL into the browser address bar.

Fix
These issues have been fixed in **Confluence 2.7**, which you can download from the **download centre**.

A patch is available for **Confluence 2.5.8** and **Confluence 2.6.2**. For more information, please see **CONF-10164**.

Our thanks to **jeff peichel**, who reported this issue to Atlassian. We **fully support the reporting of vulnerabilities** and we appreciate his working with us towards identifying and solving the problem.

Confluence Security Advisory 2008-01-24

In this advisory:

- XSS Vulnerability in Dashboard Action

XSS Vulnerability in Dashboard Action

Severity
Atlassian rates this vulnerability as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a security flaw which may affect Confluence instances in a public environment. This flaw is an XSS (cross-site scripting) vulnerability in a Confluence action, which potentially allows a malicious user (hacker) to embed their own JavaScript into a Confluence page.

- The hacker might take advantage of this flaw to steal other users' session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker's text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your company's reputation.

To fix the vulnerabilities described below, Atlassian recommends that you take one of the following steps:

- Upgrade to Confluence 2.7.1, or
- Download and install the patch for Confluence 2.6.2 or Confluence 2.7.0 from our JIRA site – see issue CONF-10289.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

Risk Mitigation

If you judge it necessary, you can disable public access (e.g. anonymous access and public signon) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups only.

Vulnerability

A hacker can inject their own JavaScript into the following Confluence action:

http://confluence-location/dashboard.action?spacesSelectedTab

The above Confluence action is used to determine which spaces are listed on a user's Dashboard. For example, the following URL requests a list of team spaces only:

http://confluence-location/dashboard.action?spacesSelectedTab=team

The action is invoked when a user selects one of the 'Spaces' tabs on the Dashboard, such as the 'Team' tab. It can also be invoked by simply entering the URL into the browser address bar.

Fix

These issues have been fixed in Confluence 2.7.1 (see the release notes), which you can download from the download centre.

A patch is available for Confluence 2.6.2 and Confluence 2.7.0. For more information, please see CONF-10289.

Our thanks to Mary Johnson, who reported this issue to Atlassian. We fully support the reporting of vulnerabilities and we appreciate her working with us towards identifying and solving the problem.

Please let us know what you think of the format of this security advisory and the information we have provided.

Confluence Security Advisory 2008-03-06

In this advisory:

- Users with View-Only Permission can Delete (Purge) Pages
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

Users with View-Only Permission can Delete (Purge) Pages

Severity

Atlassian rates this vulnerability as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

More explanation of the ranking we chose:
You might rank this vulnerability as critical, because in most installations the vulnerability will allow anonymous users to delete information.

We have chosen a ranking of high, because the vulnerability does not allow privilege escalation i.e. it doesn't allow users to gain administration privileges.

**Risk Assessment**

We have identified and fixed a security flaw which allowed users who have "View" permission (or higher) on a space to purge (delete) any page in that space.

The following Confluence versions are vulnerable: All versions from 1.3 to 2.7.1 inclusive.

To fix the vulnerabilities described below, Atlassian recommends that you take one of the following steps:

- Upgrade to Confluence 2.7.2, or
- Download and install the patch for Confluence 2.6.x or Confluence 2.7.x from our JIRA site – see issue CONF-10807.

**Risk Mitigation**

If you judge it necessary, you can disable public access (e.g. anonymous access and public signon) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups only.

If it is not immediately feasible to upgrade to Confluence 2.7.2 or apply a patch, we recommend an alternative strategy:

- As a temporary measure, you can block the URL which allows someone to purge (delete) a page. Please ask your website administrator to block the URL described below.
- The impact is that Space Administrators will not be able to purge individual pages or news items. However, Space Administrators can still use the 'Purge All' link to clear the entire contents of Trash.

**Vulnerability**

**Description:**

A user can use the following Confluence action to permanently delete (purge) any Confluence page, provided that the user has 'View' permission (or higher) in the space to which the page belongs:

```
http://confluence-location/pages/purgetrashitem.action?key=XXX&contentId=XXX
```

The above action is invoked when a space administrator clicks the 'Purge' link on the space's 'Trash' page next to a wiki page which has already been deleted.

The action can also be invoked by simply entering the URL into the browser address bar. In this way, it is possible for a user with 'View' permission (or higher) to remove a page via the 'Purge' action, even if the page has not been deleted.

**Fix**

These issues have been fixed in Confluence 2.7.2 (see the release notes), which you can download from the download centre.

A patch is available for Confluence 2.6.x, Confluence 2.7.0 and Confluence 2.7.1. For more information, please see CONF-10807.

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**Confluence Security Advisory 2008-03-19**

**In this advisory:**

- XSS Vulnerabilities in Various Confluence Actions
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

**XSS Vulnerabilities in Various Confluence Actions**

**Severity**

Atlassian rates these vulnerabilities as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

**Risk Assessment**
We have identified and fixed a number of security flaws which may affect Confluence instances in a public environment. The flaws are all XSS (cross-site scripting) vulnerabilities in various Confluence actions. Each vulnerability potentially allows a malicious user (hacker) to embed their own JavaScript into a Confluence page.

- The hacker might take advantage of the flaw to steal other users' session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker's text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your company's reputation.

To fix the vulnerabilities described below, Atlassian recommends that you take one of the following steps:

- Upgrade to Confluence 2.7.3, or
- Download and install the patches for Confluence 2.6.x from our JIRA site — refer to the list of issues below.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

**Risk Mitigation**

If you judge it necessary, you can disable public access (e.g. anonymous access and public signon) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups only.

**Vulnerability**

A hacker can inject their own JavaScript into the Confluence actions listed in the table below. Each of the actions is invoked when a user performs a specific function in Confluence, such as clicking a link or a button. The actions can also be invoked by simply entering the URL into the browser address bar.

For more details please refer to the related JIRA issue, also shown in the table below.

<table>
<thead>
<tr>
<th>Confluence Actions</th>
<th>Affected Confluence Versions</th>
<th>More Details</th>
<th>Reporter (If Not Atlassian)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create, edit or copy a page or news item</td>
<td>From 2.2 to 2.7.2 inclusive</td>
<td>CONF-11027</td>
<td></td>
</tr>
<tr>
<td>Add a comment</td>
<td>From 2.2 to 2.7.2 inclusive</td>
<td>CONF-11027</td>
<td></td>
</tr>
<tr>
<td>Create a space</td>
<td>From 2.2 to 2.7.2 inclusive</td>
<td>CONF-11042 Wyatt Crossin</td>
<td></td>
</tr>
<tr>
<td>Sign up for an account</td>
<td>From 2.2 to 2.7.2 inclusive</td>
<td>CONF-11005</td>
<td></td>
</tr>
<tr>
<td>Choose a page (page picker)</td>
<td>From 2.2 to 2.7.2 inclusive</td>
<td>CONF-11137</td>
<td></td>
</tr>
<tr>
<td>View a user</td>
<td>From 2.2 to 2.7.2 inclusive</td>
<td>CONF-11002</td>
<td></td>
</tr>
<tr>
<td>Insert an image or link</td>
<td>From 2.2 to 2.7.2 inclusive</td>
<td>CONF-11141</td>
<td></td>
</tr>
<tr>
<td>Choose a user or group (user picker and group picker)</td>
<td>From 2.2 to 2.7.2 inclusive</td>
<td>CONF-11040 Jean Marois</td>
<td></td>
</tr>
<tr>
<td>Add a user to favourites</td>
<td>From 2.0 to 2.7.2 inclusive</td>
<td>CONF-11026</td>
<td></td>
</tr>
<tr>
<td>HTTP 500 error page</td>
<td>From 1.3 to 2.7.2 inclusive</td>
<td>CONF-11019</td>
<td></td>
</tr>
<tr>
<td>Add bookmark</td>
<td>All Confluence instances that have the Social Bookmarking plugin. Note that the plugin is bundled with Confluence since version 2.6, so Confluence 2.6.x and 2.7.x are vulnerable even if you don't use social bookmarking. Patches are supplied for Confluence 2.6.x and 2.7.x.</td>
<td>CONF-11153</td>
<td></td>
</tr>
</tbody>
</table>

**Fix**

These issues have been fixed in Confluence 2.7.3 (see the release notes), which you can download from the download centre.

Patches are available for Confluence 2.6.x. For more information, please refer to the specific JIRA issues shown in the table of vulnerabilities above.

Our thanks to the people who reported some of the vulnerabilities listed above. We fully support the reporting of vulnerabilities and we appreciate their working with us towards identifying and solving the problem.
Confluence Security Advisory 2008-05-21

In this advisory:

- **Users can Move Attachments to Any Page Regardless of Permissions**
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

- **XSS Vulnerability in Page Information View**
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

**Users can Move Attachments to Any Page Regardless of Permissions**

**Severity**

Atlassian rates this vulnerability as **high**, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

**Risk Assessment**

We have identified and fixed a security flaw which allows users who have 'Create Page' permission in a space to move an attachment from a page in that space to any other page in the Confluence site, regardless of the user's permissions in the destination space.

The following Confluence versions are vulnerable: All versions from **1.0 to 2.8.0**.

**Risk Mitigation**

This security flaw grants extra powers only to users who already have 'Create Page' permissions in one of the spaces on the Confluence site. In most installations, this will be a trusted group of users.

If your Confluence instance allows a less trusted group of users to create and edit pages in one space, while restricting access to other spaces, you may judge it necessary to disable public access (e.g. anonymous access and public signon) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups only.

**Vulnerability**

Any user who has 'Create Page' permission in a Confluence space can move an attachment from a page in that space to any other page in the Confluence site, regardless of the user's permissions in the destination space.

Note: If a user has permission to create a space, they will also have 'Create Page' permission in any space they create, including a personal space. Such users could upload an attachment onto the space they have created and then move the attachment to any page in the Confluence site.

**Fix**

This issue has been fixed in Confluence 2.8.1 (see the release notes), which you can download from the download centre. Alternatively, you can download and install the patch for Confluence 2.7.x or Confluence 2.8.0 from our JIRA site – see issue CONF-11452.

Our thanks to Stafford Vaughan from CustomWare, who reported this issue to Atlassian. We fully support the reporting of vulnerabilities and we appreciate it when people work with us towards identifying and solving a problem.

**XSS Vulnerability in Page Information View**

**Severity**

Atlassian rates this vulnerability as **high**, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

**Risk Assessment**

We have identified and fixed a security flaw which may affect Confluence instances in a public environment. This flaw is an XSS (cross-site scripting) vulnerability in a Confluence action, which potentially allows a malicious user (hacker) to embed their own JavaScript into a Confluence page.

The hacker might take advantage of this flaw to steal other users’ session cookies or other credentials, by sending the credentials back to the hacker’s own web server.

The hacker’s text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your...
company’s reputation.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

The following Confluence versions are vulnerable: All versions from 1.3 to 2.8.0 inclusive.

Risk Mitigation

If you judge it necessary, you can hide referrers on page information views by disabling this functionality.

Vulnerability

A hacker can inject their own JavaScript into the referrer URLs which are displayed on the ‘Info’ view of a wiki page. The rogue JavaScript will be executed when a user opens the ‘Info’ view.

Fix

This issue has been fixed in Confluence 2.8.1 (see the release notes), which you can download from the download centre.

Alternatively, you can download and install the patch for Confluence 2.7.x or Confluence 2.8.0 from our JIRA site – see issue CONF-11524.

Confluence Security Advisory 2008-07-03

In this advisory:

- XSS Vulnerability in Various Confluence Actions
- Severity
- Risk Assessment
- Risk Mitigation
- Vulnerability
- Fix

XSS Vulnerability in Various Confluence Actions

Severity

Atlassian rates these vulnerabilities as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a number of security flaws which may affect Confluence instances in a public environment. The flaws are all XSS (cross-site scripting) vulnerabilities in various Confluence actions. Each vulnerability potentially allows a malicious user (hacker) to embed their own JavaScript into a Confluence page.

- The hacker might take advantage of the flaw to steal other users' session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker's text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your company’s reputation.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

Risk Mitigation

If you judge it necessary, you can disable public access (e.g. anonymous access and public signon) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups only.

Vulnerability

A hacker can inject their own JavaScript into the Confluence actions listed in the table below. Each of the actions is invoked when a user performs a specific function in Confluence, such as clicking a link or a button. The actions can also be invoked by simply entering the URL into the browser address bar. The rogue JavaScript will be executed when a user invokes the URL.

For more details please refer to the related JIRA issue, also shown in the table below.

<table>
<thead>
<tr>
<th>Confluence Actions</th>
<th>Affected Confluence Versions</th>
<th>More Details</th>
<th>Reporter (If Not Atlassian)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create, edit or copy a page or news item</td>
<td>2.8.0 and 2.8.1</td>
<td>CONF-11985</td>
<td>James Rinker</td>
</tr>
<tr>
<td>Page picker and space picker</td>
<td>2.2.0 to 2.8.1 inclusive</td>
<td>CONF-11137</td>
<td></td>
</tr>
</tbody>
</table>
These issues have been fixed in Confluence 2.8.2 (see the release notes), which you can download from the download centre.

Alternatively, you can download and install the patches provided on our JIRA site. For more information, please refer to the specific JIRA issues shown in the table of vulnerabilities above.

Our thanks to James Rinker who reported some of the vulnerabilities listed above. We fully support the reporting of vulnerabilities and we appreciate his working with us towards identifying and solving the problem.

Confluence Security Advisory 2008-09-08

In this advisory:

- XSS Bug: Usernames Not HTML-Encoded in All Places
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix
- Inherited Page Restrictions Are Not Applied After 2.9 Upgrade
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix
- Access Vulnerability in View Wiki Markup Function
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix
- Access Vulnerability in Copy Page Function
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix
- Access Vulnerability in Diff Page Function
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

XSS Bug: Usernames Not HTML-Encoded in All Places

Severity

Atlassian rates this vulnerability as HIGH, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a security flaw which allowed certain users to circumvent Confluence's security measures, by including HTML markup in their own username. This could allow a malicious user to execute Javascript on another user's authenticated session.

The following Confluence versions are vulnerable: All versions from 1.0 to 2.9.

Risk Mitigation

If the user specified a username that included HTML markup (which could include Javascript), in some places Confluence would not correctly escape this source before displaying it. This could result in Javascript being executed in another user's authenticated session. To address the issue, you should update your Confluence instance as soon as possible (or follow the patch instructions on the issue).

Vulnerability

This is a classic Cross-Site Scripting issue where usernames could include malicious Javascript.

Fix

This issue has been fixed in Confluence 2.9.1 (see the release notes), which you can download from the download centre.

For more information, see issue CONF-7615 which has instructions on how to patch the affected velocity template.
Inherited Page Restrictions Are Not Applied After 2.9 Upgrade

Severity

Atlassian rates this vulnerability as HIGH, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a security flaw that caused any content permission inherited by a page to be lost during the upgrade process to Confluence 2.9.

The following Confluence versions are vulnerable: Version 2.9; specifically instances of Confluence that were upgraded to version 2.9 (from an earlier version) only.

Risk Mitigation

This issue can be resolved by following the steps under Fix, or upgrading to Confluence 2.9.1. If this cannot be done immediately, it may be prudent to manually apply restrictions to each page that is normally protected by inherited restrictions (that is, all child pages residing under a restricted page). Enacting the fix is trivial and should take around ten minutes for a typical Confluence instance.

Vulnerability

If you had given a parent page restrictions prior to the 2.9 upgrade, then any child pages that should be inheriting these restrictions are no longer restricted. This potentially renders these child pages viewable and editable by Confluence users who should not have these rights. However you should note that any space level restrictions are still respected so these affected pages are only opened as far as the space level security allows for your site. Note for individual pages where you have manually set the permissions, those pages are not at risk — just the pages underneath them using inherited permissions.

Fix

This issue has been fixed in Confluence 2.9.1 (see the release notes), which you can download from the download centre.

Alternatively, you can apply the manual fix, which involves a simple series of actions in the Confluence administration screens.

For more information see issue CONF-12911.

Access Vulnerability in View Wiki Markup Function

Severity

Atlassian rates this vulnerability as HIGH, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a security flaw which allows users who don't have the correct 'View Page' permission in a space to view the Wiki Markup source of the page content.

The following Confluence versions are vulnerable: Version 2.9 only.

Risk Mitigation

If a user knows the URL to view the source of a page they will be able to bypass Confluence's security checks. This will allow the user to view the contents of a page they aren't meant to see. To prevent unauthorised access, you may want to use your web server to reject all requests to URLs containing this string: /pages/viewpagesrc.action. You may judge it necessary to disable public access.

Vulnerability

If a user knows the ID of a page that they do not have 'View Page' permission for they can use the view source URL to view the Wiki Markup of a page. This will allow them to copy and paste the contents of the page to another location, or simply read the markup and deduce its final content.

Note: the user will need to know the page ID of a page. Confluence will not provide any links to the restricted page through a search or other navigation.

Fix

This issue has been fixed in Confluence 2.9.1 (see the release notes), which you can download from the download centre.

For more information see issue CONF-12845.
Access Vulnerability in Copy Page Function

Severity
Atlassian rates this vulnerability as **HIGH**, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment
We have identified and fixed a security flaw which allows users who don't have the correct 'View Page' permission in a space to copy a page and therefore see its content.

The following Confluence versions are vulnerable: All versions from **1.0 to 2.9**.

Risk Mitigation
If a user knows the URL to copy a page they will be able to bypass Confluence's security checks. This will allow the user to view the contents of a page they aren't meant to see.

To prevent unauthorised access, you may want to use your web server to reject all requests to URLs containing this string: `/pages/copypage.action`. You may judge it necessary to disable public access.

Vulnerability
If a user knows the ID of a page they do not have permissions for, they can use the copy page URL to copy the page to a space where they do have permission. This will allow them to create a new page based on the content of a page they aren't meant to see.

Fix
This issue has been fixed in Confluence 2.9.1 (see the release notes), which you can download from the download centre. Alternatively, you can download and install the patch for Confluence 2.7.3 or 2.8.2 from our JIRA site – see issue CONF-12859. Instruction on installing the patch can be found here.

Access Vulnerability in Diff Page Function

Severity
Atlassian rates this vulnerability as **HIGH**, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment
We have identified and fixed a security flaw which allows users who don't have the correct 'View Page' permission in a space to create a diff of a page (a comparison of its contents with another page) and therefore see its content.

The following Confluence versions are vulnerable: All versions from **1.0 to 2.9**.

Risk Mitigation
If a user knows the URL to perform a diff of a page they will be able to bypass Confluence's security checks. This will allow the user to view the contents of a page they aren't meant to see.

To prevent unauthorised access, you may want to use your web server to reject all requests to URLs containing this string: `/pages/diffpages.action`. You may judge it necessary to disable public access.

Vulnerability
If a user knows the ID of a page they do not have permissions for, they can use the 'Diff Page' URL to compare the contents of that page with one where they do. This will allow them to deduce the contents of a page they don't have access to.

Fix
This issue has been fixed in Confluence 2.9.1 (see the release notes), which you can download from the download centre. Alternatively, you can download and install the patch for Confluence 2.7.3 or 2.8.2 from our JIRA site – see issue CONF-12860. Instruction on installing the patch can be found here.
Confluence Security Advisory 2008-10-14

In this advisory:

- **Parameter Injection Vulnerability in Confluence**
  - **Severity**: Critical
  - **Risk Assessment**: Low
  - **Risk Mitigation**: Fix
  - **Vulnerability**: Fix
- **XSS Vulnerability in Various Confluence Actions and Plugins**
  - **Severity**: Moderate
  - **Risk Assessment**: Low
  - **Risk Mitigation**: Fix
  - **Vulnerability**: Fix
- **Privilege Escalation Vulnerability in Confluence Watches**
  - **Severity**: Critical
  - **Risk Assessment**: Low
  - **Risk Mitigation**: Fix
  - **Vulnerability**: Fix
- **Privilege Escalation Vulnerability in Confluence Favourites**
  - **Severity**: Critical
  - **Risk Assessment**: Low
  - **Risk Mitigation**: Fix
  - **Vulnerability**: Fix

### Parameter Injection Vulnerability in Confluence

**Severity**

Atlassian rates this vulnerability as critical, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

**Risk Assessment**

We have identified and fixed a flaw which would allow a malicious user (hacker) to inject their own values into a Confluence request by adding parameters to the URL string. This would allow a hacker to bypass Confluence's security checks and perform actions that they are not authorised to perform.

**Risk Mitigation**

To address the issue, you should upgrade Confluence as soon as possible or follow the patch instructions below. If you judge it necessary, you can block all untrusted IP addresses from accessing Confluence.

**Vulnerability**

A hacker can design a URL string containing parameters which perform specific actions on the Confluence server, bypassing Confluence's security checks. This is because Confluence does not adequately sanitise user input before applying it as an action on the server.

Exploiting this issue could allow an attacker to access or modify data and compromise the Confluence application.

The following Confluence versions are vulnerable: All versions from **1.3 to 2.9.1**.

**Fix**

This issue has been fixed in Confluence 2.9.2 (see the [release notes](https://confluence.atlassian.com/display/CSSF/Scheduled+Release+Notes#ScheduledReleasenotes-ReleaseNotes), which you can download from the [download centre](https://confluence.atlassian.com/download).

If you do not wish to upgrade to Confluence 2.9.2, a patch is available that will work with any affected version of Confluence. You can download and install the patch from our JIRA site. For more information, please refer to [CONF-13092](https://confluence.atlassian.com/display/CSSF/CONF-13092).

### XSS Vulnerability in Various Confluence Actions and Plugins

**Severity**

Atlassian rates these vulnerabilities as high, according to the scale published in Confluence Security. The scale allows us to rank a
vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a number of security flaws which may affect Confluence instances in a public environment. The flaws are all XSS (cross-site scripting) vulnerabilities in various Confluence actions. Each vulnerability potentially allows a malicious user (hacker) to embed their own JavaScript into a Confluence page.

- The hacker might take advantage of the flaw to steal other users’ session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker’s text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your company’s reputation.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

Risk Mitigation

If you judge it necessary, you can disable public access (e.g. anonymous access and public signon) to your wiki until you have applied the necessary patch or upgrade. For even lighter control, you could restrict access to trusted groups.

Vulnerability

A hacker can inject their own JavaScript into the Confluence actions listed in the table below. Each of the actions is invoked when a user performs a specific function in Confluence, such as clicking a link or a button. The actions can also be invoked by simply entering the URL into the browser address bar. The rogue JavaScript will be executed when a user invokes the URL.

For more details please refer to the related JIRA issue, also shown in the table below.

<table>
<thead>
<tr>
<th>Confluence Actions</th>
<th>Affected Confluence Versions</th>
<th>More Details</th>
<th>Reporter (If Not Atlassian)</th>
</tr>
</thead>
<tbody>
<tr>
<td>View children via the Pagetree plugin (bundled with Confluence)</td>
<td>2.8.0 to 2.9.1 inclusive</td>
<td>CONF-13043</td>
<td>Thomas Jaehnel</td>
</tr>
<tr>
<td>Update bookmark via the Social Bookmarking plugin (bundled with Confluence)</td>
<td>2.6.0 to 2.9.1 inclusive</td>
<td>CONF-13041</td>
<td>Thomas Jaehnel</td>
</tr>
<tr>
<td>Build RSS feed</td>
<td>2.0 to 2.9.1 inclusive</td>
<td>CONF-13042</td>
<td>Thomas Jaehnel</td>
</tr>
<tr>
<td>Search via Search macro</td>
<td>All versions from 1.0 to 2.9.1 inclusive</td>
<td>CONF-13040</td>
<td>Thomas Jaehnel</td>
</tr>
<tr>
<td>Search</td>
<td>All versions from 1.0 to 2.9.1 inclusive</td>
<td>CONF-12944</td>
<td></td>
</tr>
</tbody>
</table>

Fix

These issues have been fixed in Confluence 2.9.2 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 2.9.2, you can download and install the patches provided on our JIRA site. For more information, please refer to the specific JIRA issues shown in the table of vulnerabilities above.

Our thanks to Thomas Jaehnel of OPTIMAbit, who reported most of the XSS vulnerabilities listed above. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

Privilege Escalation Vulnerability in Confluence Watches

Severity

Atlassian rates this vulnerability as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a flaw which would allow an unauthorised user to add a Confluence page to the list of pages they are watching, even if the user does not have permission to view that page. Under some circumstances, the unauthorised user may thus have access to information they are not authorised to see.

Risk Mitigation

This flaw does not allow the unauthorised user to update the page, but it may give the user access to information that they do not have
permission to see.

**Vulnerability**

An unauthorised user can manipulate the HTTP request, so that it adds a watch to a page which the user does not have permission to view. The page then appears in the user's list of watched pages, displaying the page title and the corresponding space name. In this way, the user can bypass Confluence's permission checks and gain access to information they are not authorised to see.

The following Confluence versions are vulnerable: All versions from 1.0 to 2.9.1.

**Fix**

This issue has been fixed in Confluence 2.9.2 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 2.9.2, you can download and install the patches provided on our JIRA site. For more information, please refer to CONF-13039.

Our thanks to Thomas Jaehnel of OPTIMAbit, who reported the vulnerability listed above. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

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**Privilege Escalation Vulnerability in Confluence Favourites**

**Severity**

Atlassian rates this vulnerability as moderate, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

**Risk Assessment**

We have identified and fixed a flaw which would allow an unauthorised user to add a Confluence page to their list of favourites, even if the user does not have permission to view that page. Under some circumstances, the unauthorised user may thus have access to information they are not authorised to see.

**Risk Mitigation**

This flaw does not allow the unauthorised user to update the page, and it gives the user only very limited access to the information they do not have permission to see.

**Vulnerability**

An unauthorised user can manipulate the HTTP request, so that it marks as 'favourite' a page which the user does not have permission to view. The page is then added to the number of favourites for the user. The user cannot see the page title or content, but can see that the favourite count has been incremented.

The following Confluence versions are vulnerable: All versions from 1.0 to 2.9.1.

**Fix**

This issue has been fixed in Confluence 2.9.2 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 2.9.2, you can download and install the patches provided on our JIRA site. For more information, please refer to CONF-13044.

Our thanks to Thomas Jaehnel of OPTIMAbit, who reported the vulnerability listed above. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

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**Confluence Security Advisory 2008-12-03**

In this advisory:

- XSS Vulnerability in Various Confluence Actions
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix
- Users can View a List of All Attachments by Supplying an Edited URL
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
Fix

XSS Vulnerability in Various Confluence Actions

Severity

Atlassian rates these vulnerabilities as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a number of security flaws which may affect Confluence instances in a public environment. The flaws are all XSS (cross-site scripting) vulnerabilities in various Confluence actions. Each vulnerability potentially allows a malicious user (hacker) to embed their own JavaScript into a Confluence page.

- The hacker might take advantage of the flaw to steal other users' session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker's text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your company's reputation.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

Risk Mitigation

If you judge it necessary, you can disable public access (e.g. anonymous access and public signon) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

Vulnerability

A hacker can inject their own JavaScript into various Confluence URLs — see the table below for the affected functional areas. A URL may be invoked when a user performs a specific function in Confluence, such as clicking a link or a button. The URL can also be invoked by simply entering it into the browser address bar. If rogue JavaScript is injected into such a URL, the JavaScript will be executed when a user invokes the URL.

For more details please refer to the related JIRA issue, also shown in the table below.

<table>
<thead>
<tr>
<th>Affected Confluence Functionality</th>
<th>Affected Confluence Versions</th>
<th>Fix Availability</th>
<th>More Details</th>
<th>Reporter (If Not Atlassian)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handling of error messages. (Vulnerability in the DWR code library used by Confluence.)</td>
<td>2.7.3 to 2.9.2 inclusive</td>
<td>2.9.2 and 2.10</td>
<td>CONF-11808</td>
<td>Bjoern Froebe</td>
</tr>
<tr>
<td>Attachments macro.</td>
<td>2.8 to 2.9.2 inclusive</td>
<td>2.8.2, 2.9.2 and 2.10**</td>
<td>CONF-13713</td>
<td></td>
</tr>
<tr>
<td>Uploading of attachments.</td>
<td>2.6 to 2.9.2 inclusive</td>
<td>2.8.2, 2.9.2 and 2.10</td>
<td>CONF-13717</td>
<td></td>
</tr>
<tr>
<td>Inserting images as thumbnails.</td>
<td>2.8 to 2.9.2 inclusive</td>
<td>2.8.2, 2.9.2 and 2.10</td>
<td>CONF-13625</td>
<td></td>
</tr>
<tr>
<td>Log events listed in the Confluence 500 error page.</td>
<td>2.9 to 2.9.2 inclusive</td>
<td>2.10 only</td>
<td>CONF-13584</td>
<td></td>
</tr>
<tr>
<td>Wiki Markup link rendering.</td>
<td>2.7 to 2.9.2 inclusive</td>
<td>2.7.x, 2.8.x, 2.9.x, 2.10</td>
<td>CONF-13451</td>
<td></td>
</tr>
</tbody>
</table>

* The patch for CONF-13717 also addresses the bug in CONF-13736.
** To fix this issue, please upgrade your Attachments plugin to the latest version. This plugin is available for Confluence 2.8.2, 2.9.2 and 2.10, via the Confluence Plugin Repository.

Fix

These issues have been fixed in Confluence 2.10 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 2.10, you can download and install the patches provided on our JIRA site. You will need to upgrade to the latest point release for the major version of Confluence that you are running (e.g. if you are running Confluence 2.8, you will need to upgrade to version 2.8.2) and then apply the patches. For more information, please refer to the specific JIRA issues shown in the table of vulnerabilities above.

Please note that one of the issues can only be fixed by upgrading to Confluence 2.10. Please see the table above for details.

Our thanks to Bjoern Froebe, who reported one of the XSS vulnerabilities listed above. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.
Users can View a List of All Attachments by Supplying an Edited URL

Severity

Atlassian rates this vulnerability as medium, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a security flaw which allows a user to view the list of all attachments for all pages in a Confluence instance, regardless of space-level or page-level permissions.

While the user cannot open the files, a range of metadata is available for viewing, including file name, the page that the file is attached to, the creator, and the creation and last-modified date of the attachment.

Risk Mitigation

If you judge it necessary, you can disable anonymous access to your wiki until you have applied the necessary patch or upgrade.

Vulnerability

If a user removes the space key from the URL while viewing attachments for a space, Confluence will display the full list of all attachments for all spaces. For more details, please refer to CONF-13874.

Fix

These issues have been fixed in Confluence 2.10 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 2.10, you can download and install the patches provided in the JIRA issue, CONF-13874. You will need to upgrade to the latest point release for the major version of Confluence that you are running (e.g. if you are running Confluence 2.8, you will need to upgrade to version 2.8.2) and then apply the patch.

Our thanks to Matthew Goonan, who reported this vulnerability. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

Confluence Security Advisory 2009-01-07

In this advisory:

• Content Overwrite Vulnerability in the Office Connector Plugin
  • Severity
  • Risk Assessment
  • Risk Mitigation
  • Vulnerability
  • Fix

Content Overwrite Vulnerability in the Office Connector Plugin

Severity

Atlassian rates this vulnerability as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified a risk that makes it possible for users with read-only access to a Confluence wiki space to modify its contents via the document import feature of the Office Connector plugin. This issue, however, does not expose restricted content on a Confluence wiki space to unauthorised users.

Risk Mitigation

Please see the 'Fix' section below. If you cannot apply the fix immediately, you can consider taking one or more of the following steps:

• Disable the whole Office Connector plugin, as explained here.
• If you judge it necessary, you can disable public access (e.g. anonymous access and public signon) to your wiki until you have applied the necessary patch or upgrade.
• For even tighter control, you could restrict access to trusted groups.

Vulnerability
The Office Connector plugin was first bundled in Confluence version 2.10.0. Hence, this vulnerability affects Confluence 2.10.0 where the Office Connector Plugin is enabled. Additionally, this plugin is compatible with all versions of Confluence from 2.3.0 onwards. Hence, if you have installed the plugin, this vulnerability will affect your Confluence instance.

Fix

Please download and install the latest version of the Office Connector plugin via the Confluence Plugin Repository (instructions here). If you wish to install this plugin manually, you can download it from here.

Alternatively, install or upgrade to Confluence version 2.10.1. (See the release notes.) The Confluence 2.10.1 installation files can be downloaded from the download centre.

For more information, please refer to CONF-14014.

Our thanks to Justin Wong, who reported this vulnerability. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

Confluence Security Advisory 2009-02-18

In this advisory:

- HTTP Header Injection Flaw
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

HTTP Header Injection Flaw

Severity

Atlassian rates this vulnerability as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low. An Advanced Warning of this Security Advisory published last week on http://forums.atlassian.com, stated the severity of this vulnerability as critical. After further assessing the likelihood of attack, however, we have amended this to high.

Risk Assessment

We have identified and fixed a security flaw which may affect Confluence instances in a public environment. This flaw is an HTTP header injection vulnerability in the Seraph web framework that is used by Confluence. This potentially allows a malicious user (attacker) to modify the HTTP response to insert malicious code. An attacker could present a modified URL to users (e.g. disguised in an email message). If any user clicks the URL, the malicious code would be executed in the user's session.

- The attacker may take advantage of this flaw to steal other users' session cookies or other credentials, by sending the credentials back to the attacker's own web server.
- The attacker could also gain control over the underlying system, based on the privileges of the user whose session cookie has been stolen.
- The attacker could redirect the user to undesirable web sites. This is potentially damaging to your company's reputation.

Atlassian recommends that you upgrade to Confluence 2.10.2 to fix the vulnerabilities described below.

Risk Mitigation

We strongly recommend either patching or upgrading your Confluence installation to fix this vulnerability. Please see the 'Fix' section below.

Alternatively, you may consider taking the following step, although the time required to fix this vulnerability and the extent of its effectiveness will depend on your application server running Confluence and its configuration:

- Consult the vendor of your application server to see whether your application server is immune to header injection vulnerabilities or has configuration options to prevent such attacks. For example, the Coyote (HTTP) connector in Tomcat version 5.5 and later is immune to header injection attacks, as acknowledged in this reference.
  - Technical note: In your application server, header injection vulnerabilities can be mitigated if the setHeader(), addHeader(), and sendRedirect() methods in the HttpServletResponse class have their parameters properly checked for header termination characters.
  - You may wish to forward this technical note to the vendor of your application server to help them assess the vulnerability of your application server to header injection attacks.

Vulnerability

All versions of Confluence prior to 2.10.2 are vulnerable to this security flaw.
Fix

The fix updates the Seraph framework to a version which correctly encodes and validates redirect URLs before sending them back to the user.

To patch your existing installation of Confluence, please refer to CONF-14275. This JIRA issue contains the downloadable patch file and instructions on how to patch your existing Confluence installation.

Alternatively, install or upgrade to Confluence version 2.10.2. (See the release notes.) The Confluence 2.10.2 installation files can be downloaded from the download centre.

For more information, please refer to CONF-14275.

**Confluence Security Advisory 2009-04-15**

In this advisory:

- **XSS Vulnerability in Various Confluence Macros**
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix
- **HTTP Header Injection Flaw with Attachment Filenames**
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

**XSS Vulnerability in Various Confluence Macros**

**Severity**

Atlassian rates this vulnerability as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

**Risk Assessment**

We have identified and fixed two security flaws which may affect Confluence instances in a public environment. These flaws are all cross-site scripting (XSS) vulnerabilities in Confluence's Index and Widget Macros. Each vulnerability potentially allows a malicious user (attacker) to embed their own JavaScript into a Confluence page, which will be executed when the page is rendered.

- The hacker might take advantage of the flaw to steal other users' session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker's text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your company's reputation.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

**Risk Mitigation**

We recommend either patching or upgrading your Confluence installation to fix this vulnerability. Please see the 'Fix' section below.

Alternatively if you are not in a position to undertake this immediately and you judge it necessary, you can disable public access (e.g. anonymous access and public sign-on) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

You could also temporarily disable the Widget Connector plugin and the Index Macro module of the Confluence Advanced Macros plugin until you have applied the necessary patch or upgrade. Be aware, however, that this will cause any occurrence of these macros on existing pages or blogs in your Confluence site to render with 'Unknown Macro' indications.

**Vulnerability**

All versions of Confluence prior to 2.10.3 are vulnerable to this security flaw.

**Fix**

The fixes include an update to the Index Macro, such that it correctly renders content on the page and an update to the Widget Macro, such that it correctly encodes all parameters passed to it.

To patch your existing installation of Confluence, please refer to CONF-14753 for the Index Macro and CONF-14337 for the Widget Macro. These JIRA issues contain the downloadable patch files and instructions on how to patch your existing Confluence installation.

Alternatively, install or upgrade to Confluence version 2.10.3. (See the release notes.) The Confluence 2.10.3 installation files can be downloaded from the download centre.
HTTP Header Injection Flaw with Attachment Filenames

Severity

Atlassian rates this vulnerability as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a security flaw with attachment filenames. This vulnerability could lead to an HTTP Header Injection attack through the upload of attachments with modified filenames designed to exploit this flaw. An attacker could insert malicious code into the HTTP response, which would be executed in the user's session.

- The attacker may take advantage of this flaw to steal other users' session cookies or other credentials, by sending the credentials back to the attacker's own web server.
- The attacker could also gain control over the underlying system, based on the privileges of the user whose session cookie has been stolen.
- The attacker could redirect the user to undesirable web sites. This is potentially damaging to your company's reputation.

Risk Mitigation

We strongly recommend either patching or upgrading your Confluence installation to fix this vulnerability. Please see the 'Fix' section below.

If you judge it necessary, you can disable public access (e.g. anonymous access and public sign-on) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

Alternatively, you may consider taking the following step, although the time required to fix this vulnerability and the extent of its effectiveness will depend on your application server running Confluence and its configuration:

- Consult the vendor of your application server to see whether your application server is immune to header injection vulnerabilities or has configuration options to prevent such attacks. For example, the Coyote (HTTP) connector in Tomcat version 5.5 and later is immune to header injection attacks, as acknowledged in this reference.

  Technical note: In your application server, header injection vulnerabilities can be mitigated if the setHeader(), addHeader(), and sendRedirect() methods in the HttpServletResponse class have their parameters properly checked for header termination characters.

  You may wish to forward this technical note to the vendor of your application server to help them assess the vulnerability of your application server to header injection attacks.

Vulnerability

All versions of Confluence prior to 2.10.3 are vulnerable to this security flaw.

Fix

The fix includes a new header-injection prevention filter in Confluence, which ensures attachment filenames or any other user-provided data is correctly encoded before being included in HTTP headers.

To patch your existing installation of Confluence, please refer to CONF-14704. This JIRA issue contains the downloadable patch files and instructions on how to patch your existing Confluence installation.

Alternatively, install or upgrade to Confluence version 2.10.3. (See the release notes.) The Confluence 2.10.3 installation files can be downloaded from the download centre.

For more information, please refer to CONF-14704.

Confluence Security Advisory 2009-06-01

In this advisory:

- XSS Vulnerability in Various Confluence Actions and Macros
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

XSS Vulnerability in Various Confluence Actions and Macros
Severity

Atlassian rates these vulnerabilities as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a number of security flaws which may affect Confluence instances in a public environment. These are cross-site scripting (XSS) that affect various Confluence page/blog features and functions.

- The hacker might take advantage of the flaw to steal other users’ session cookies or other credentials, by sending the credentials back to the hacker’s own web server.
- The hacker’s text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your company’s reputation.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

Risk Mitigation

We recommend either patching or upgrading your Confluence installation to fix these vulnerabilities. Please see the ‘Fix’ section below.

Alternatively, if you are not in a position to undertake this immediately and you judge it necessary, you can disable public access (e.g. anonymous access and public sign-on) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

Vulnerability

A hacker can inject their own JavaScript into various Confluence URLs — see the table below for the affected functional areas. A URL may be invoked when a user performs a specific function in Confluence, such as clicking a link or a button. The URL can also be invoked by simply entering it into the browser address bar. If rogue JavaScript is injected into such a URL, the JavaScript will be executed when a user invokes the URL.

For more details please refer to the related JIRA issue, also shown in the table below.

<table>
<thead>
<tr>
<th>Affected Confluence Functionality</th>
<th>Affected Confluence Versions</th>
<th>Fix Availability</th>
<th>More Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concurrent page edit message</td>
<td>All versions (1.0 to 2.10.3 inclusive)</td>
<td>2.9.2 and 2.10.3</td>
<td>CONF-15883</td>
</tr>
<tr>
<td>Gallery Macro (Confluence Advanced Macros Plugin)</td>
<td>All versions (1.0 to 2.10.3 inclusive)</td>
<td>2.10.3</td>
<td>CONF-15376</td>
</tr>
<tr>
<td>View File Macro (Office Connector Plugin)</td>
<td>2.10.0 to 2.10.3 inclusive *</td>
<td>2.10.3</td>
<td>CONF-15402</td>
</tr>
<tr>
<td>Instant Messenger Macro</td>
<td>All versions (1.0 to 2.10.3 inclusive)</td>
<td>2.8.2, 2.9.2 and 2.10.3</td>
<td>CONF-15397</td>
</tr>
<tr>
<td>Contributors Macro</td>
<td>2.3 to 2.10.3 inclusive</td>
<td>2.9.2 and 2.10.3</td>
<td>CONF-15399</td>
</tr>
<tr>
<td>JIRA Issues Macro</td>
<td>All versions (1.0 to 2.10.3 inclusive)</td>
<td>2.10.3</td>
<td>CONF-15754</td>
</tr>
</tbody>
</table>

* This vulnerability may be present in earlier Confluence versions with the Office Connector plugin installed.

Fix

These issues have been fixed in Confluence 3.0 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 3.0, you can download and install the patches provided on our JIRA site. You will need to upgrade to the latest point release for the major version of Confluence that you are running (e.g. if you are running Confluence 2.9, you will need to upgrade to version 2.9.2) and then apply the patches. For more information, please refer to the specific JIRA issues shown in the table of vulnerabilities above.

Confluence Security Advisory 2009-06-16

In this advisory:

- Page Content Vulnerabilities
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

Page Content Vulnerabilities

⚠️ If you have already upgraded to Confluence 3.0, then you are not affected by the vulnerabilities described on this page and there is no need to take any further action.
Severity

Atlassian rates these vulnerabilities as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed two security vulnerabilities which may affect Confluence instances in a public environment. Both of these fixes are associated with a tightening of user access restrictions when either viewing specific page content or adding new page content.

The first of these vulnerabilities allows a user without permission to view a given page, to view the contents of any files attached to that page using the view file macro. This assumes that the user has permission to edit or create another page within the Confluence site and knows the name of the file attached to the page they cannot view. For more information, please refer to the JIRA issue CONF-15809.

The second of these vulnerabilities allows users with space administrator permissions to import pages to a Confluence space. The security level of this function has been tightened to permit only users with the system administration permission to access it. For more information, please refer to CONF-15267.

Risk Mitigation

If you have not already upgraded to Confluence 3.0, then we recommend either patching or upgrading your Confluence installation to fix these vulnerabilities. Please see the ‘Fix’ section below.

Alternatively, if you are not in a position to undertake this immediately and you judge it necessary, you can disable public access (e.g. anonymous access and public sign-on) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

Vulnerability

All versions of Confluence up to and including version 2.10.3 with the Office Connector plugin installed are affected by the first view file macro vulnerability.

All versions of Confluence 2.10.x are affected by the second page imports vulnerability.

Fix

These issues have been fixed in Confluence 3.0 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 3.0, you can download and install the patches provided on our JIRA site. You will need to upgrade to the latest point release for the major version of Confluence that you are running (e.g. if you are running Confluence 2.10.0, you will need to upgrade to version 2.10.3) and then apply the patches. For more information, please refer to the specific JIRA issues shown below.

To download the patch to fix the first view file macro vulnerability, please refer to CONF-15809.

To download the patch to fix the second page import vulnerability, please refer to CONF-15267.

Confluence Security Advisory 2009-08-20

In this advisory:

- Privilege Escalation Vulnerability in Profile Picture Handling
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix
- XSS Vulnerability in Various Page and Blog Post Features and Functions
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

Privilege Escalation Vulnerability in Profile Picture Handling

Severity

Atlassian rates this vulnerability as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified a privilege escalation vulnerability, which could provide an attacker with access to administrative areas and functions of Confluence when specifying a profile picture. Under some circumstances, the attacker could gain access to Confluence administrative
functions that they are not authorised to use.

Risk Mitigation

To address the issue, you should upgrade to Confluence 3.0.1 as soon as possible or follow the patch instructions in the Fix section below. If you judge it necessary, you can disable public signon to your wiki until you have applied the necessary patch or have performed the upgrade. For even tighter control, you could also restrict access to trusted groups or additionally, disable anonymous access until your system is patched or upgraded.

Vulnerability

The profile picture handling feature in all versions of Confluence up to 3.0.0 are affected by this issue. However, the Form Token Handling mechanism available in Confluence 3.0.0 and later means that the administrative areas in these versions of Confluence cannot be compromised by this vulnerability.

Fix

This issue has been fixed in Confluence 3.0.1 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 3.0.1 and you are running Confluence 2.10.x, you can download and install the patches provided on our JIRA site. We strongly recommend that you upgrade to the latest point release (2.10.3) before applying the patch. For more information, please refer to CONF-16141.

Our thanks to Elliot Kendall of Emory University, who reported this vulnerability. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

XSS Vulnerability in Various Page and Blog Post Features and Functions

Severity

Atlassian rates these vulnerabilities as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a number of XSS vulnerabilities in various Confluence page/blog features and functions, which may affect Confluence instances in a public environment.

XSS vulnerabilities potentially allow a malicious user (attacker) to embed their own JavaScript into a Confluence page.

- The attacker might take advantage of the vulnerability to steal other users' session cookies or other credentials, by sending the credentials back to the attacker's own web server.
- The attacker's text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your company's reputation.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

Risk Mitigation

We recommend either patching or upgrading your Confluence installation to fix these vulnerabilities. Please see the ‘Fix’ section below.

Alternatively, if you are not in a position to undertake this immediately and you judge it necessary, you can disable public access (e.g. anonymous access and public sign-on) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

Vulnerability

An attacker can inject their own JavaScript into the Confluence actions listed in the table below. Each of the actions is invoked when a user performs a specific function in Confluence, such as clicking a link or a button. The actions can also be invoked by simply entering the URL into the browser address bar. The rogue JavaScript will be executed when a user invokes the URL.

For more details please refer to the related JIRA issue, also shown in the table below.

<table>
<thead>
<tr>
<th>Confluence action</th>
<th>Affected Confluence Versions</th>
<th>Fix Availability</th>
<th>More Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clicking a username link</td>
<td>3.0.0</td>
<td>3.0.0 and 3.0.1</td>
<td>CONF-15970</td>
</tr>
<tr>
<td>Moving pages between spaces</td>
<td>2.8 to 2.10.3 inclusive</td>
<td>2.10.x and 3.0.1</td>
<td>CONF-16019</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-16135</td>
</tr>
</tbody>
</table>
Entering content into the WebDAV Configuration page

<table>
<thead>
<tr>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.10.x</td>
<td>2.0 of the WebDAV plugin</td>
</tr>
<tr>
<td>3.0.0</td>
<td>3.0.0 and 3.0.1</td>
</tr>
</tbody>
</table>

Conf-16136

Entering content into the PDF Export Stylesheet

<table>
<thead>
<tr>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0.0</td>
<td>3.0.0 and 3.0.1</td>
</tr>
</tbody>
</table>

Conf-16209

* Applying the patch for one of these issues fixes the other.

Fix

These issues have been fixed in Confluence 3.0.1 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 3.0.1, you can patch your existing installation by downloading and installing the patched files provided on our JIRA site. For the WebDAV plugin vulnerability, this would involve upgrading the version of the plugin. We strongly recommend that you upgrade to the latest point release of the major version of Confluence that you are running before applying the patches. For example, if you are running Confluence 2.10.1, you should upgrade to version 2.10.3 and then apply the patches. For more information, please refer to the specific JIRA issues shown in the table of vulnerabilities above.

**Confluence Security Advisory 2009-10-06**

In this advisory:

- Session Fixation Vulnerability
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix
- XSS Vulnerability in Various Confluence Macros
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix

### Session Fixation Vulnerability

**Severity**

Atlassian rates these vulnerabilities as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

**Risk Assessment**

We have identified and fixed a security vulnerability which may affect Confluence instances in a public environment. This vulnerability could lead to a session fixation attack, in which the malicious user (attacker) can gain access to a victim's Confluence resources whilst the victim is logged in to their Confluence user account.

The attacker does this by fixating (or setting) their session ID onto the victim's computer. While the victim is logged in, all the victim's privileges are associated with the attacker's session ID, effectively granting the attacker access to all of the Confluence data and resources accessible to the victim.

For more information about session fixation attacks, please refer to the following sources:

- Chris Shiflett's Security Corner article
- The Web Application Security Consortium's overview

**Risk Mitigation**

We recommend either patching or upgrading your Confluence installation to fix these vulnerabilities. Please see the 'Fix' section below.

Alternatively, if you are not in a position to undertake this immediately and you judge it necessary, you can disable public access (e.g. anonymous access and public sign-on) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

### Vulnerability

All versions of Confluence prior to 3.0.2 are vulnerable to this security issue.

**Fix**

These issues have been fixed in Confluence 3.0.2 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 3.0.2 and you are currently running Confluence version 2.10.x or 3.0.x, you can patch your
existing installation by downloading the appropriate patch file attached to JIRA issue CONF-15108 and installing the patch file using the instructions provided in this JIRA issue.

Our thanks to Ben L Broussard who reported this vulnerability. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

XSS Vulnerability in Various Confluence Macros

Severity

Atlassian rates these vulnerabilities as high, according to the scale published in Confluence Security. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a number of security vulnerabilities which may affect Confluence instances in a public environment. These flaws are cross-site scripting (XSS) vulnerabilities in Confluence’s pagetree, userlister and content by label macros. These XSS vulnerabilities potentially allow an attacker to embed their own JavaScript into a Confluence page.

- The attacker might take advantage of the vulnerability to steal other users’ session cookies or other credentials, by sending the credentials back to the attacker's own web server.
- The attacker's text and script might be displayed to other people viewing the Confluence page. This is potentially damaging to your company’s reputation.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

Risk Mitigation

We recommend either patching or upgrading your Confluence installation to fix these vulnerabilities. Please see the ‘Fix’ section below.

Alternatively, if you are not in a position to undertake this immediately and you judge it necessary, you can disable public access (e.g. anonymous access and public sign-on) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

Vulnerability

An attacker can inject their own JavaScript into the Confluence actions listed in the table below. Each of the actions is invoked when a user performs a specific function in Confluence, such as clicking a link or a button. The actions can also be invoked by simply entering the URL into the browser address bar. The rogue JavaScript will be executed when a user invokes the URL.

For more details please refer to the related JIRA issue, also shown in the table below.

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<th>Affected Confluence Versions</th>
<th>Fix Availability</th>
<th>More Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pagetree Macro</td>
<td>2.8.0 – 3.0.1</td>
<td>2.10.0 – 3.0.2 inclusive</td>
<td>CONF-16651</td>
</tr>
<tr>
<td>Userlister Macro</td>
<td>2.6.0 – 3.0.1</td>
<td>2.10.0 – 3.0.2 inclusive</td>
<td>CONF-16644</td>
</tr>
<tr>
<td>Content by Label Macro</td>
<td>2.10.0 – 3.0.1</td>
<td>2.10.0 – 3.0.2 inclusive</td>
<td>CONF-15440</td>
</tr>
</tbody>
</table>

Fix

These issues have been fixed in Confluence 3.0.2 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 3.0.2, you can patch your existing installation by upgrading the plugins for these macros via the Confluence Plugin Repository to the version indicated in the JIRA issues listed in the vulnerability section (above).

Design and Layout

- Custom Decorator Templates
- Customising Look and Feel Overview
  - Customise pdf or html content
  - Customising a Specific Page
  - Customising the dashboard for Administrators
  - Customising the eMail Templates
  - Customising the Login Page
  - Customising Colour Schemes
  - Customising Layouts
  - Adding a Navigation Sidebar
Adding an All Versions Section to your Navigation Bar

Upgrading Custom Layouts

Global Templates
Modify Confluence Interface Text
Working With Decorator Macros

Styling Confluence with CSS
Basic Styling Tutorial
Styling Fonts in Confluence
Styling Tabs in Confluence

Themes Configuration
Applying a Theme To A Site
Creating a Theme
Adding a theme icon
Customising the Left Navigation Theme
Deploying the theme as a plugin
Including Cascading Stylesheets in Themes
Modifying Look and Feel (for themes)
Configuring the theme plugin
Themes Overview

RELATED TOPICS

Modifying Confluence Interface Text
Site Configuration

Custom Decorator Templates

About Decorators

Confluence is built on top of the Open Source SiteMesh library, a web-page layout system that provides a consistent look and feel across a site. SiteMesh works through "decorators" that define a page's layout and structure, and into which the specific content of the page is placed. If you are interested, you can read more on the SiteMesh website.

What this means for Confluence is that you can customise the look and feel of almost all of your Confluence site through editing three decorators:

- The "Main" decorator defines the look and feel of most pages on the site
- The "Popup" decorator defines the look and feel of the popup windows such as the "Insert Link" and "History" pages.
- The "Printable" decorator defines the look and feel of the printable versions of pages (available through the icon on each page)

You can view and edit these decorators from within Confluence: they are available from the "Layouts" option on the site's Administration menu. Changes to the decorators will affect all spaces hosted on that Confluence installation.

The decorator that is used to draw Confluence's administrative pages can not be edited from within Confluence. This means that if you make some editing mistake that renders the rest of the site unusable, the administrative pages should still be available for you to fix the template.

Browsing the Default Decorators

At any time, you can browse the default decorators that come packaged with Confluence by following the "View Default" links on the "Site Layouts" page. The template browser also allows you to view the "#parsed" templates that are included within the template when it is compiled. While you can't edit these included templates, you will probably have to copy some or all of them into your custom template as you do your customisation.

Editing Custom Decorators: Add a Logo

To edit Confluence decorators, you should have a good knowledge of HTML, and some understanding of the Velocity templating language.

The first thing you will see when you choose to create a custom "Main" decorator is... there's not much to edit. By default, most of the content of this decorator is included from other files:
We can add our logo, changing the "logocell" table cell:

```
<td width="60%" rowspan=2 class="logocell">#pagetitle("spacenametitle")</td>
```

When you insert this into the right section of the template and hit save, visitors to the site will see the logo at the top of each page. Note, the administrative pages will be unaffected: you will have to go to the dashboard or to a space to see the changes you have made.

**Macros**

Some parts of the page are drawn using Velocity macros, including the navigation bar. The macros you should know about when editing decorators are described in [Working With Decorator Macros](#).

**If Something Goes Terribly Wrong**

From the "Site Layouts" page in Confluence's administrative menu, you can delete your custom templates. When you do this, the default template will be restored, fixing anything that may have been broken.

Alternatively, the custom templates are stored inside the `confluence.home` directory you defined in `confluence-init.properties` when installing Confluence. If you have somehow managed to render Confluence completely unusable through editing your templates, simply delete the `confluence.home/velocity` directory, and restart Confluence. The default templates will be restored.

**WARNING:** Only delete the `velocity` directory! Changing anything else inside your `confluence.home` is dangerous, and you could lose important data!
For Advanced Users

The velocity directory is at the front of Confluence's velocity template search path. As such, you can override any of Confluence's velocity templates by placing an identically named file in the right place.

While we don't recommend you do this unless you know exactly what you're doing, it does give you complete control over the look of every aspect of Confluence. It also means that you can edit your templates in a text-editor if you wish, rather than through the web interface.

There are, however, two important caveats:

1. Velocity is configured to cache templates in memory. When you edit a page from within Confluence, it knows to reload that page from disk. If you are editing the pages on disk, you will either have to turn off velocity's caching temporarily in WEB-INF/classes/velocity.properties, or restart the server to make your changes visible.
2. Because we only officially support the modification of the three global decorator files, other changes may interact unpredictably with future versions of Confluence. When upgrading, you should always test your custom modifications thoroughly before deploying them on a live site.

Customising Look and Feel Overview

You can customise the "look and feel" of Confluence at both the global and space levels.

Any changes you make to the look and feel of the site at the global level will be applied as the default look and feel for all the spaces in the site. This means that any customisations will only be reflected in the "Default" theme. No other theme will have an impact from this change. An individual space can be configured to have its own look and feel through the space administration screens.

Here's how you can customise the look and feel of your site:

- **Colour Scheme**: Change the colour scheme of the user interface.
- **Layouts**: Edit how the controls are laid out in the site. This does not change the actual page layouts but the way the surrounding controls appear in the page.
- **Themes**: Use themes for advanced layout customisation.

RELATED TOPICS

- Theme Plugins
- Customising a Specific Page
- Customising Look and Feel Overview
- Creating a Theme Plugin
- Global Templates
- Customising Layouts
- Customising Colour Schemes
- Upgrading Custom Layouts
- Editing the Footer
- Working With Decorator Macros
- Adding a Site-Wide Banner

Customise pdf or html content

To customise the pdf output, modify confluence-x.y.z-jar/com/atlassian/confluence/pages/Page.pdfexport.vm. See Editing Files within JAR Archives to learn how to repackage this file.

For html output, the file is Page.htmlexport.vm in the same directory.

Check CONF-5519 for how to remove the creator's name.

Customising a Specific Page
If you'd like to change the appearance of a specific page, you can modify the corresponding Velocity template. Here's how to find out which one:

1. Access the page. Note the name of the action. For example, the "Contact Administrators" page is `<baseURL>/administrators.action`.
3. Unzip or unjar the file using a standard unzipper or the `java util.jar` utility.
4. Open `xwork.xml`. Search the file for the name of the action corresponding to the page you'd like to modify. You'll see an entry like:

   ```xml
   <action name="administrators" class="com.atlassian.conflience.user.actions.AdministratorsAction">
     <interceptor-ref name="defaultStack"/>
     <result name="success" type="velocity">/administrators.vm</result>
   </action>
   ``

5. The file to look for is the vm or vmd file. In the above example, it's `administrators.vmd`. Because there is no context path (just a / before the name of the file), its in the root of the Confluence webapp. For the stand-alone, that's `<confluence-install>/confluence` folder.
6. Modify the file.

For details on how to configure the file, check the Velocity Template Overview.

RELATED CONTENT

- Theme Plugins
- Customising a Specific Page
- Customising Look and Feel Overview
- Creating a Theme Plugin
- Global Templates
- Customising Layouts
- Customising Colour Schemes
- Upgrading Custom Layouts
- Editing the Footer
- Working With Decorator Macros
- Adding a Site-Wide Banner

Customising the dashboard for Administrators

To make modifications to the dashboard, modify the global template `/confluence/decorators/global.vmd` or the layout at Administration >> Layouts >> Global Layout.

For example, search the Global Layout for these macros:

```plaintext
$helper.renderConfluenceMacro('[recently-updated-dashboard:dashboard|showProfilePic=true|types=page,blogpost,comment]
$helper.renderConfluenceMacro('[favpages:maxResults=$maxFavouritePages]
```

To modify the bundled plugin confluence dashboard macros:

1. Modify the atlassian-bundled-plugins.zip file located at `<Confluence install>/confluence/WEB-INF/classes/com/atlassian/conflience/setup`
2. Update confluence-dashboard-macros-x.x.jar file, rezip it and then put it back to `<Confluence install>/confluence/WEB-INF/classes/com/atlassian/conflience/setup`. Refer to Editing Files within JAR Archives.
3. Wipe the jar from `<confluence-home>/bundled-plugins` and restart.

To customise the space list, you can work with spacelist.vm.

RELATED TOPICS

- Customising Look and Feel Overview
Customising the eMail Templates

Customisations to the Confluence email templates will need to be reapplied when you upgrade Confluence. Consider this before making drastic changes to the layout, and be sure to keep a list of what you have changed for your upgrade process later.

Only administrators with access to the server where Confluence is running can modify the Confluence email templates.

Process to change the email templates

1. Shut down your test instance of Confluence.
2. In the Confluence web application folder, find the file /confluence/WEB-INF/lib/confluence-2.x.jar.
3. Make a copy of this file as a backup.
4. Learn how to edit files within .jar archives.
5. Within the jar file, find the /templates/email folder. Find the appropriate file(s) within that folder.
6. Edit the file with a text editor to make the required changes. The content is mostly HTML, but has some Velocity template variables in it. See Velocity Template Overview for more information about how these work.
7. Again using the guide on editing files within .jar archives, either rejar the set of folders or drop the new files into the identical folder structure in the WEB-INF/classes directory.
8. Start Confluence up again and test your changes.
9. Apply the changes to your production Confluence instance.

The same process can be applied to modify most of the templates in the Confluence web application. For velocity files that are not in a jar file, you need not shut down and restart Confluence. Be careful to test your changes before applying them to a live site. The templates contain code that is vital for Confluence to function, and it is easy to accidentally make a change that prevents use of your site.

RELATED TOPICS

- Velocity Template Overview
- Customising Layouts
- Customising Look and Feel Overview
- Modify Confluence Interface Text

Customising the Login Page

It's fairly straightforward to customise the Confluence login page, to add your own logo or custom text. This will not customise the login process however, just what a user sees when she logs in.

Customisations to the Confluence login page will need to be reapplied when you upgrade Confluence. Consider this before making drastic changes to the layout, and be sure to keep a list of what you have changed for your upgrade process later.

Only administrators with access to the server where Confluence is running can modify the Confluence login page.

Process to change the login page

1. Shut down your test instance of Confluence.
2. In the Confluence web application folder, find the file confluence/login.vm.
3. Make a copy of this file as a backup.
4. Edit the file with a text editor to make the required changes. The content is mostly HTML, but has some Velocity template variables in it. See Velocity Template Overview for more information about how these work.
5. Start Confluence up again and test your changes.
6. Apply the changes to your production Confluence instance.

The same process can be applied to modify most of the templates in the Confluence web application. Be careful to test your changes before applying them to a live site. The templates contain code that is vital for Confluence to function, and it is easy to accidentally make a change that prevents use of your site.

Related topics

- Editing the Global Logo
- Velocity Template Overview
- Customising Layouts
- Customising Look and Feel Overview
- Modify Confluence Interface Text

Customising Colour Schemes

A Confluence administrator can configure a new colour scheme for the site dynamically from the Administration Console.
The default colour scheme for the site will also become the default for all spaces within it. However, it is possible for space administrators to configure a different colour scheme for spaces from the space administration screens.

To change the site’s colour scheme,

1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
2. Select ‘Colour Scheme’ in the left-hand panel.
   This will bring up a new screen. See screenshot below.
3. Click ‘Edit’. Enter standard HTML/CSS2 colour codes, or use the colour-pickerto choose a new colour from the palette provided. Any changes you make will immediately be reflected across the Confluence installation.

The colour scheme applies to the following UI elements:

- Top Bar - the bar across the top of the page that contains the breadcrumbs
- Tab Navigation Background - the background colour of the tab navigation menus
- Tab Navigation Text - the text of the tab navigation menus
- Breadcrumbs Text - the breadcrumbs text in the top bar of the page
- Space Name Text - the text of the current space name located above the page title
- Heading Text - all heading tags throughout the space.
- Links - all links throughout the space.
- Borders and Dividers - table borders and dividing lines.
- Tab Navigation Background Highlight - the background colour of the tab navigation menu when highlighted
- Tab Navigation Text Highlight - the text of the tab navigation menu when highlighted
- Top Bar Menu Selected Background - the background colour of the top bar drop down menu when selected
- Top Bar Menu Item - the text colour of the menu items in the top bar drop down menu
- Page Menu Selected Background - the background colour of the drop down page menu when selected
- Page Menu Item Text - the text of the menu items in the drop down page menu
- Menu Item Selected Background - the background colour of the menu item when selected (applies to both the top bar and page drop down menus)
- Menu Item Selected Text - the text colour of the menu item when selected (applies to both the top bar and page drop down menus)

Please note that some UI elements are specific to the default theme and may not take affect for other themes.

Screenshot: Editing a site’s colour scheme
Custom Colour Scheme
A custom colour scheme which can be edited.

The following colours can be customised for this colour scheme.

- **Top Bar**: #003366
- **Tab Navigation Background**: #3c78b5
- **Tab Navigation Text**: #ffffff
- **Breadcrumbs Text**: #ffffff
- **Space Name Text**: #999999
- **Heading Text**: #003366
- **Links**: #003366
- **Borders and Dividers**: #3c78b5
- **Tab Navigation Background Highlight**: #003366
- **Tab Navigation Text Highlight**: #ffffff
- **Top Bar Menu Selected Background**: #336699
- **Top Bar Menu Item Text**: #003366
- **Page Menu Selected Background**: #6699cc
- **Page Menu Item Text**: #555555
- **Menu Item Selected Background**: #6699cc
- **Menu Item Selected Text**: #ffffff

**Handy Hint**
If you mess things up, just click the 'Reset' button and then try again.

**RELATED TOPICS**
- Theme Plugins
- Customising a Specific Page
- Customising Look and Feel Overview
- Creating a Theme Plugin
- Global Templates
- Customising Layouts
- Customising Colour Schemes
- Upgrading Custom Layouts
- Editing the Footer
- Working With Decorator Macros
- Adding a Site-Wide Banner

Customising Layouts
If you modify the look and feel of Confluence by following these instructions, you will need to update your customisations when upgrading Confluence. The more dramatic the customisations are, the harder it will be to reapply your changes when upgrading. Please take this into account before proceeding with your customisation.

You can customise the layout of your Confluence instance by editing the 'decorators' that define the look and feel of the site. You need to have System Administrator permissions in order to perform this function.

Confluence is built on top of the open source SiteMesh library, a web-page layout system. Read more on the SiteMesh website. To edit the layout of Confluence, you will need to modify these decorator files. A decorator file is a .vmd file and is written in a very simple programming language called Velocity. You can learn more from the Velocity User Guide.

Once you are familiar with Velocity, you can edit the decorator files to personalise the appearance of Confluence.

The decorator files are grouped into:

- **Site layouts**: These are used to define the controls that surround each page in the site. For example, the header and the footer.
- **Content layouts**: These control the appearance of content such as pages and news items; they don't change the way the pages themselves are displayed, but allow you to alter the way the surrounding comments or attachments are displayed.
- **Export Layouts**: These control the appearance of spaces and pages when they are exported to HTML. If you are using Confluence to generate a static website, for example, you will need to modify these layouts.

**Editing a site decorator file**

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Layouts' under 'Look and Feel' in the left-hand navigation panel. The decorators are grouped under Site, Content and Group layouts.
   - Click 'View Default' to view the vmd file.
   - Click 'Create Custom' to edit the default vmd file. This will open up the vmd file in edit mode.
3. Make changes and click 'Update'.

**If something goes wrong**: Click 'Reset Default' to revert to the original layouts.

**Using Velocity macros**

When editing Custom Decorator Templates, there are a number of macros available to define complex or variable parts of the page such as menus and breadcrumbs. You may insert these macros anywhere in your templates. More information on Working With Decorator Macros.

**For advanced users**

The velocity directory is at the front of Confluence's velocity template search path. As such, you can override any of Confluence's velocity templates by placing an identically named file in the right place. While we don't recommend you do this unless you know exactly what you're doing, it does give you complete control over the look of every aspect of Confluence. It also means that you can edit your templates in a text-editor if you wish, rather than through the web interface.

**Caching**

Velocity is configured to cache templates in memory. When you edit a page from within Confluence, it knows to reload that page from disk. If you are editing the pages on disk, you will either have to turn off velocity's caching temporarily in WEB-INF/classes/velocity.properties, or restart the server to make your changes visible.

In Confluence 2.6 and later, some Velocity files are located inside the Confluence JAR file that can be found at confluence/WEB-INF/lib/confluence-x.x.x.jar. To override files inside this JAR (which you can open with any ZIP tool like WinZip or 7-Zip), put your customised file in the same directory structure under confluence/WEB-INF/classes/.

For example, the file templates/macros/alphaindex.vm inside confluence.jar can be replace by putting your custom file in WEB-INF/classes/templates/macros/alphaindex.vm. You do not need to modify the file inside the JAR.

See also Editing Files within JAR Archives.

**RELATED TOPICS**
Adding a Navigation Sidebar

This customisation must be re-applied each time you upgrade Confluence

When you upgrade to a new major Confluence version (e.g. from Confluence 2.9.x to Confluence 3.0.x to Confluence 3.1.x), you will need to re-apply this customisation. See instructions below.

Confluence pages can be set to include a left-hand navigation sidebar (table of contents) as shown below:

You can see an online example on the left of this page, and in other documentation spaces such as the Crowd documentation.
Follow the instructions below to add the navigation sidebar to your Confluence space.

### Permissions required
To customise a space layout as described below, you must be a Space Administrator in the given space and you must be a System Administrator on the Confluence site.

---

**Step 1. Create the TreeNavigation Page**

First, you will create a Confluence page containing the `pagetree` macro. This is just a normal Confluence page. The only slight oddity is that it should reside at the root of your space, instead of under the space's home page.

Follow these instructions:

1. Go to the 'Space Pages' view for the current space. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Pages'. The 'Space Pages' view will open.
   - You are now at the 'root' level of your space. The 'root' level contains pages that are added above the space's home page, not as children of the home page.
2. At the root level of the space, create a page named 'TreeNavigation'.
3. On the page, insert the following text:
   ```
   {pagetree}
   ```

4. Now decide if you want to add extra functionality to your page tree. By default, using the code above, the page tree will use the home page of the space as its root. You can choose to:
   - Specify a different root for your page tree.
   - Add a search box at the top of the tree.
   - Allow the viewers to expand and collapse the whole tree.
   - Control other aspects of the display.
   For more information, read about the `Pagetree` macro.

---

**Step 2. Change the Page Layout on your Space**

Now you will change the page layout on your space, to include the above page on the left of every web page displayed.

1. Go to the 'Space Admin' tab of the Browse Space view. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Space Admin'. The 'Space Administration' view will open. 'Space Admin' is only displayed if you are a space administrator.

2. Make sure the Confluence Default theme is selected from the 'Themes' menu.

3. Click 'Layout' under the 'Look and Feel' section. 'Layout' is only displayed if you are a Confluence Site Administrator.

4. Click 'Create Custom' under the 'Page Layout' section.

5. In the layout, locate the 'VIEW' section, and find this code:
   ```
   <div class="wiki-content">
   $body
   </div>
   ```

6. Replace the above code block with this code:
If you want to, you can change the table title in the above code from 'Table of Contents' to something else. For example, it might say 'Confluence Documentation'.

Save the updated layout.

**Re-Applying the Customisation on Upgrade**

When you upgrade to a new major Confluence version (e.g. from Confluence 2.9.x to Confluence 2.10.x or from Confluence 3.0.x to Confluence 3.1.x), you will need to re-apply this customisation.

**Reason:**
The new Confluence version may contain updates to the page layouts. Because you have customised the page layouts, Confluence will not overwrite your customisation. So your space will not get the latest updates until you set the layout to default and then re-apply your changes.

**Here's how to do it:**

1. First make a copy of your customised code, if you have changed it from the code above:
   - Go to 'Space Admin', click 'Layout' and edit the customised page layout (as created above).
   - Copy the section of code that inserts the customised left-hand navigation panel.
   - Close the page layout.
2. Click 'Reset Default' next to 'Page Layout', to set the page layout back to default. This will bring in the new code for the upgraded version of Confluence.
3. Create a custom page layout as described in step 2 above, and reinsert the custom left-hand navigation code.
4. Save the updated layout.

**The 'All Versions' section in the navigation bar**
A number of people have asked how we created the 'All Versions' section at the top of our navigation side bar. Take a look at Adding an All Versions Section to your Navigation Bar.

**RELATED TOPICS**
- Customising Layouts
- Upgrading Custom Layouts
- Customising the Left Navigation Theme
- Example Confluence Designs

**Adding an All Versions Section to your Navigation Bar**

This page gives an example of how you might add an 'All Versions' section to your navigation side bar, as currently used in the Confluence documentation, Crowd documentation and the other Atlassian product documentation spaces.

If you are viewing this page online on the Atlassian documentation wiki, you will be able to see the 'All Versions' section at the top left of the
A number of people have asked how we do it, so this page gives the answer. For details about creating the navigation side bar itself, please refer to Adding a Navigation Sidebar.

**Hint: Viewing the Source Code of a Page**
To see the Wiki Markup for one of the Atlassian documentation pages, open the 'Tools' menu and select 'View Wiki Markup'. You will see the macros and other markup used to create a page.

*Screenshot: 'All Versions' section (expanded) at top left of navigation bar*

Adding the Version Index to the Navigation Sidebar

This is how we added the 'All Versions' section to the sidebar:

- For each product (Confluence, Crowd, Bamboo, etc) there is a page in the Inclusions Library of the ALLDOC space. The page lists all the versions of that product's documentation, linking to the relevant spaces. For example, here is the page for Confluence and the page for Crowd.

  ![Confluence Documentation](image)

  **Adding the Version Index to the Navigation Sidebar**

- We put the 'all versions' page in ALLDOC because the page is used in a number of different spaces, via the {include} macro. For example, the 'all versions' page may be included:
  - In every documentation space (each version) for the product concerned, such as DOC, CONF29, CONF28, CROWD, CROWD013, CROWD012, etc.
  - In the Enterprise Hosting doc space.
  - As a panel on the documentation home page, as shown in the 'All Versions' panel of the above screenshot, as well as in the left-hand navigation bar.
  - Any other places where useful.
  - In each documentation space, there is a page called 'TreeNavigationVersions' like this one or this one, which copies in the content of the above 'all versions' page.

- For each documentation space, the space's page layout now includes two pages instead of just one:
  - The 'TreeNavigation' page, as already described on the page above.
  - The new 'TreeNavigationVersions' page.
Here's the relevant section of our page layout as it is currently for the Confluence documentation (DOC) space:

```
# if ($action.isPrintableVersion() == false)
<style>
.spacetree * ul{
padding-left:6px;
margin-left: 6px;
}
.spacetree * li{
margin-left: 5px;
padding-left:5px;
}
</style>
<table cellspacing="2" cellpadding="5">
<tr>
<td valign="top" align="left" width="30%" bgcolor="#eeecec" class="noprint">
<div class="tabletitle">All Versions</div>
<div class="spacetree">
#includePage($helper.spaceKey "TreeNavigationVersions")
</div>
</td>
<td valign="top" align="left" width="70%" class="pagecontent">
$body
</td>
</tr>
</table>
#end
```

**Adding the Expand/Collapse Functionality to the Version Index**

Another question we are asked is how we group the content of the included page under a collapsible control or 'twisty'.

We use the `{expand}` macro. This is a 'user macro', which means that you can add it to your Confluence site by adding the code into the `User Macros` section of your Confluence Administration Console. The details are on the [Expand macro's documentation page](#).

**RELATED TOPICS**

**Adding a Navigation Sidebar**

**Upgrading Custom Layouts**

As Confluence evolves, so do the default layouts that drive the rendering of every page. As new functionality is added or current functionality is changed, the default layouts are modified to support these changes.

ℹ️ If you are using custom layouts based on defaults from a previous Confluence version, you run the risk of **breaking functionality**, or worse, **missing out on great new features**!

Take care on each new release of Confluence to reapply your changes to the new default templates.

To reapply your custom layouts, you need to:

1. Obtain the source of your custom layout from your current version of Confluence.
2. Reapply your customisations to the new default layouts.

**Step 1. Obtaining your Custom Layouts**

**Before Confluence 2.3**, custom layouts are stored in the `velocity` directory within your Confluence home directory tree. You can open these files in any text editor.

**With Confluence 2.3 and later**, custom layouts are stored in the `DECORATOR` table within your Confluence database. You can `SELECT` for the source of the layout using SQL like this:
This example was tested on MySQL, but should be relevant for all SQL databases.

Step 2. Reapplying your Customisations

You will need to manually apply the changes you made to the new default layouts provided by the new version of Confluence.

Use the documentation on customising layouts to create a new custom layout and use the source obtained in step 1 to manually reintegrate them.

Turning off caching

Velocity is configured to cache templates in memory. When you edit a page from within Confluence, it knows to reload that page from disk. If you are editing the pages on disk, you will either have to turn off velocity's caching temporarily in WEB-INF/classes/velocity.properties, or restart the server to make your changes visible.

For Confluence 2.6, the velocity.properties file is available in the confluence-2.6.0.jar file. The jar file is located in the WEB-INF/lib directory. If you wish to make modification to the files in the jar, we recommend the following steps:

1. Stop Confluence.
2. Make a backup copy of the jar file.
3. Un-jar the file
4. Locate and edit the appropriate file that you wish to modify.
5. Re-jar the confluence-2.6.0.jar file.
6. Relocate the jar file to the appropriate directory.
7. Restart Confluence.

Test your modifications carefully

Changes may interact unpredictably with future versions of Confluence. When upgrading, you should always test your custom modifications thoroughly before deploying them on a live site. It's beyond the scope of Atlassian Support to test and deploy these changes.

Global Templates

A template is a pre-defined page that can be used as a prototype when creating new pages. Templates are useful for giving pages a common style or format.

Global Templates are defined by Confluence administrators and are available in every space across the site.

Templates are written in regular Confluence markup, using special markup to define form fields that need to be filled in.

To add a global template,

1. Go to the Confluence 'Administration Console'. To do this:
   * Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Global templates' in the left navigation panel.
3. Click 'Add new global template'.
4. Enter a name for your template in the 'Name' text field and an optional description in the 'Description' text field.
5. Using regular Confluence markup and form field markup (if you are using forms), enter content in the text-entry box as you would in any other Confluence page.
6. Click 'edit' next to 'Labels' if you want to use labels to categorise information. Add your labels. These labels will be included in all pages created using this template.
7. Preview and click 'Save'.

    Screenshot: A template as used to create a page
Modify Confluence Interface Text

All Confluence UI text is contained in a single Java properties file. This file can be modified to change the default text, and also to translate Confluence into other languages than English.

The UI text file is `ConfluenceActionSupport.properties`. From your Confluence install directory:

```
/confluence\WEB-INF\lib\confluence-3.x.jar

Within this File, the relevant file to edit is :
:\com\atlassian\confluence\core\ConfluenceActionSupport.properties.
```

Refer to Editing jar files for reference.

The file contains parameters with name-value pairs, in the format:

```
parameter.name=Parameter value
```

Parameter names are any text before the `=` character and should never be modified. Any text after the `=` character is the parameter value, which can be modified freely and can also contain variables. An example involving variables is:

```
popular.labels=The three most popular labels are {0}, {1} and {2}.
```

For more information on replacing values, check out Translating ConfluenceActionSupport Content. Note that plugins store their text internally, so you must modify plugin text individually.

Steps For Modification

1. Stop Confluence
2. Under your install directory, open
   `\confluence\WEB-INF\lib\confluence-3.x.jar\com\atlassian\confluence\core\ConfluenceActionSupport.properties`
3. Search for the text you wish to modify, replace it and save the file in
   `<Confluence-Install>\confluence\WEB-INF\classes\com\atlassian\confluence\core`. Please create this folder structure, if it does not exist already.
4. Restart Confluence

Common Modifications

- Rename 'Dashboard' by searching for `Dashboard`. To change "Dashboard" to "My Portal", change `dashboard.name=Dashboard` to `dashboard.name=My Portal`
**Rename 'Dashboard'**

Dashboard The `dashboard.name` parameter has the name. To change 'Dashboard' to 'My Portal', change `dashboard.name=Dashboard` to `dashboard.name=My Portal` and update any other occurrences of the word 'Dashboard' in the instance.

**Modify login page text**

login. The `login.instructions` parameter has the "Enter your account details below to login to Confluence" text.

---

**Modify Keyboard Shortcuts**

Confluence provides a set of keyboard shortcuts. You could customise the shortcuts by making modifications inside the `ConfluenceActionSupport.properties` file.

- To disable a particular shortcut, you can simply just comment out a respective line of code. One may like to disable the shortcut to one of the navigation links: View, Edit, Attachments, Info. For instance, to disable shortcut to Attachments one would comment out the following line:

  ```
  #navlink.attachments.accesskey=a
  ```

- To modify an access key, one could simply just change the letter, bearing in mind the fact that the letter must be unique.

**Working With Decorator Macros**

Decorator Macros are **Velocity** macros which are used to draw complex or variable parts of the page such as menus and breadcrumbs when editing **Custom decorators**. Decorator macros can be inserted anywhere in your templates.

The macro is called by inserting a string of the form: `#macroName("argument1" "argument2" "argument3")`. There are no commas between the arguments. Unless otherwise noted, these macros take no arguments.

**NOTE:** These macros will only work reliably when customising `main.vmd`. They may not work in other Velocity decorators. Decorator macros will not work inside normal confluence pages.

<table>
<thead>
<tr>
<th>Macro</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>#breadcrumbs()</td>
<td>Draws the &quot;You are here&quot; breadcrumbs list, like the one found above the page name in the default template.</td>
</tr>
<tr>
<td>#includePage(pageTitle)</td>
<td>Includes a confluence page with the specified title. If you have 2 or more pages with the same title across multiple spaces, this macro will include the page belonging to the space you are currently viewing.</td>
</tr>
<tr>
<td>#searchbox()</td>
<td>Inserts a search box into the page, like the one to the far right of the breadcrumbs in the default template.</td>
</tr>
<tr>
<td>#globalnavbar(type)</td>
<td>Draws the global navigation bar, as found in the top right-hand corner of the default template. The navigation bar can be displayed in two modes:</td>
</tr>
<tr>
<td>#globalnavbar(&quot;table&quot;)</td>
<td>Displays the navigation bar in its default mode: drawn as a table of links with coloured backgrounds and mouse-over effects.</td>
</tr>
<tr>
<td>#globalnavbar(&quot;text&quot;)</td>
<td>Displays the navigation bar as series of text links separated by</td>
</tr>
<tr>
<td>#usernavbar()</td>
<td>Draws the user-specific navigation-bar. This bar contains the links to the user’s profile and history, or to the login and signup pages if the user is not logged in.</td>
</tr>
<tr>
<td>#helpicon()</td>
<td>Draws the help icon, and link to the Confluence help page.</td>
</tr>
<tr>
<td>#printableicon()</td>
<td>On pages where a printable version is available, draws the printable page icon, linking to the printable version of the page. Otherwise, draws nothing</td>
</tr>
<tr>
<td>#pagetitle(class)</td>
<td>When you are viewing a page in a Confluence space, draws the name of the space that page is in. Otherwise, writes the word &quot;CONFLUENCE&quot;. The &quot;class&quot; argument is the CSS class that the title should be drawn in. Unless you have customised your Confluence installation's CSS file, you should call this with &quot;spacenametitle&quot; as the class: <code>#pagetitle(&quot;spacenametitle&quot;)</code></td>
</tr>
<tr>
<td>#poweredby()</td>
<td>Writes out the &quot;Powered by Confluence&quot; and Confluence version-number boilerplate found at the bottom of the default template.</td>
</tr>
<tr>
<td>#bottomshadow()</td>
<td>Draws the fading shadow-effect found at the bottom of the content area in the default template.</td>
</tr>
<tr>
<td>#dashboardlink()</td>
<td>Inserts a link to the dashboard page.</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- [Writing Macros](#)
- [Editing and Removing macros](#)
Styling Confluence with CSS

This page explains the facility for making visual changes to the look and feel of Confluence with CSS.

On this page:

- Introduction
- Considerations for Using Custom CSS
  - CSS Knowledge is Required
  - Security
  - Scaling
  - Features Cannot Be Disabled
  - Features Should Not Be Disabled
  - Confluence Version Compatibility
  - Test on Different Web Browsers
  - CSS Customisation is Not Supported
  - Follow the Tutorial
- RELATED LINKS

Introduction

Cascading Style Sheets (CSS) are an industry-standard way of styling a web page. The content of a page is rendered with HTML, and its look and feel is determined by CSS files.

With the release of Confluence 2.10, you can easily upload a CSS text file and apply it to a space or even a whole Confluence instance. See this page for instructions.

Creating CSS styles that works seamlessly across different browsers is a delicate task for basic web sites, and reasonably challenging when customising web-applications like Confluence. It is important to carefully test each change that you make and ensure it works as expected in all areas of Confluence; for example, on the Confluence Dashboard as well as on regular pages.

In order to get you started, we have compiled this introduction, a basic styling tutorial and a more advanced tutorial which alters a Confluence menu.

Considerations for Using Custom CSS

CSS Knowledge is Required

If you’re not familiar with CSS, this page has an accessible introduction. You should spend some time to become confident with Cascading Style Sheets before you start editing your Confluence instance.

Security

Custom CSS can be used to inject scripts into a page, opening the risk of cross-site scripting (XSS) attacks. With this feature enabled, space administrators could upload styles that steal other users' login credentials, trick their browsers into performing actions on the wiki without their knowledge, or even obtain global administration privileges. As such, this feature is disabled by default. Confluence administrators should only enable custom CSS if they are comfortable with the risks listed in this paragraph.

Scaling

Each page needs to scale. Depending on the resolution of the user's screen, the content should render intelligently. Your designs needs to degrade gracefully. Try resizing each page that exists in Confluence. There are quite a few pages in the browse-space-section, like drafts, labels, page hierarchy, and so on. Your style has to work everywhere, not just in the first page you happen to be looking at.

Features Cannot Be Disabled

It is easy to turn off certain links, headers, or even menu items by simply setting their style to 'hidden'. This can help you to roll out Confluence to users that may not be very Wiki-savvy yet. The simpler the UI, the easier it may be for them to use. However, please remember that removing the link to a part of the application does not mean that the functionality is not available. Every user can still change their style from within their browsers, or access the URL directly. Don't rely on CSS to disable parts of Confluence.
**Features Should Not Be Disabled**

Users familiar with Confluence will expect to find the same controls that they are accustomed to. Removing buttons or controls from the interface is not advised as it may frustrate your users and cause them to circumvent your design by using direct URL access, as mentioned above.

**Confluence Version Compatibility**

Be aware of any plans to upgrade your Confluence instance. Future versions of Confluence may not be compatible with your custom CSS — this may cause your CSS to break, requiring maintenance when Confluence is upgraded. Ask your Confluence administrator for more information.

**Test on Different Web Browsers**

As a rule you should test your modifications on different web browsers. Internet Explorer, Firefox, Opera and Safari (on Mac OS X) are some of the more popular browsers.

**CSS Customisation is Not Supported**

As creating custom CSS has potentially limitless possibilities, Atlassian will not support issues that are caused by or related to CSS customisation.

**Follow the Tutorial**

When you’re ready, follow the examples in the Basic Styling Tutorial or the more advanced Styling Tabs in Confluence to get started.

**RELATED LINKS**

Basic Styling Tutorial  
Styling Tabs in Confluence  
Styling Fonts in Confluence  
Including Cascading Stylesheets in Themes

**Basic Styling Tutorial**

This page contains instructions on how to get started with custom CSS styling in Confluence.

On this page:

- CSS Editing Quick-Start
- Tutorial: Changing the Header Background
- CSS Editing Tips
  - Begin With a Space Stylesheet
  - Use the Right Tools
  - Edit Simple Elements First
- RELATED LINKS

**CSS Editing Quick-Start**

1. Log in as the Space Administrator.  
2. Open the Space Admin page.  
3. Click ‘Stylesheet’.  
4. Click ‘Edit’ to change the code in the text field.  
5. Paste your custom CSS into the text field. (Once text is saved here, you can make adjustments to it inline.)  
6. Click ‘Save’. The new CSS will be visible on all content pages in the space.

**Tutorial: Changing the Header Background**

The header is the menu area at the top of a default Confluence page where the Breadcrumb Links, Browse menu, User menu and the Quick Search box reside. In this example, we are going to change the background of the header to include a custom graphic.

1. Create a custom graphic. For this example, we created a custom header graphic of 1046 x 61 pixels.  
2. Upload the custom graphic to a page in the space that you are customising.  
3. Note the page ID of the page where you uploaded the new graphic. (In this example, the page ID was ‘658833839’.)  
4. Compose your custom CSS for the header. The example below loads the new graphic (called ‘header.png’) from a specific page (denoted by page ID ‘658833839’) in the same space.

```css
#header {  
    background-image:url('..download/attachments/658833839/header.png');  
    background-repeat: no-repeat;  
}
```
4. Log in as the Space Administrator.
5. Open the Space Admin page.
6. Click 'Stylesheet'.
7. Click 'Edit' to change the code in the text field.
8. Paste your custom CSS into the text field.
9. Click 'Save'. Now reload the page (you may have to shift-reload). The background of the header will change.
10. The custom header will be visible on all content pages in the space. To revert your change, simple delete the custom code from the 'Stylesheet' page and click 'Save'.

**CSS Editing Tips**

**Begin With a Space Stylesheet**

A space stylesheet is a good starting point for CSS customisation, as it already includes all of the elements that can be changed. When you work on the space stylesheet it styles all content pages in the space. Build and test it at space-level, before considering applying the new stylesheet to your entire site. Once you are satisfied with your space design, test it thoroughly until you are confident that it has no problems. Then, you can look into advanced customisation of the Confluence CSS such as adjusting the Search page, the Dashboard and other integral pages.

**Use the Right Tools**

As the Confluence CSS is reasonably sophisticated, web development applications will help you to understand how the page styles have been created. In particular, you will need to view the existing source for the pages you're starting to work on. If you don't already have some, tools such as the following free applications will allow you to do this.

1. **Firebug**
   Firebug, a plugin for the Firefox web browser, allows you to take a look at the style of each element on your page. This is very useful to see what styles are currently applied, for example styles applied to the header only.

2. **Web Developer**
   The Web Developer plugin for Firefox allows you to edit CSS inline and create new page designs.

3. **CSS Edit**
   CSS Edit is a stand-alone CSS editor for Macintosh that extracts all existing styles from a given page and allows you to overwrite these.

**Edit Simple Elements First**

Begin by editing simple elements and checking that they work. By making changes, then checking that each one worked, you can easily isolate any CSS code that is causing problems. Be aware that some page elements are more suited to customisation than others. For example, adding a gradient to the toolbar is less likely to 'break' the page than changing the page width. Editing reasonably static elements such as background graphics will render more predictably than designs which attempt to completely change the user interface or the Javascript-powered drop-down menus (which we don't recommend editing).

**RELATED LINKS**

Styling Confluence with CSS  
Styling Tabs in Confluence  
Including Cascading Stylesheets in Themes

**Styling Fonts in Confluence**

Confluence provides the ability to adjust its visual style via Cascading Style Sheets (CSS). With this feature, it is very easy to change the look and feel of Confluence.

This tutorial shows you to change the fonts of a normal Confluence page. We will show how to change the font and font sizes with a few lines of CSS.

**Screenshot 1: Default Font in a Confluence Page**
At the bottom of this page you can find the code for the custom font. Simply copy and paste it into the Space Stylesheet form within the Space Administration section.

**Changing the fonts**

In order to customise the fonts in Confluence, you first need to set the body font to the font you want. Second, you may want to adjust the font size to account for the fact that different fonts have different relative sizes.

The relevant CSS is shown below, and can be configured in Space Admin > Stylesheets. These styles change Confluence’s font from its default of Helvetica/Arial – *sans serif* fonts – to Times/Times New Roman – *serif* fonts. To adjust for the fact that Times is a bit smaller than Helvetica, we increase the font size to 14 pixels.

```css
body {
    font-family: Times, "Times New Roman", serif;
    font-size: 14px;
}
.wiki-content,
.wiki-content p,
.wiki-content table,
.wiki-content tr,
.wiki-content td,
.wiki-content th,
.wiki-content ol,
.wiki-content ul,
.wiki-content li {
    font-size: 14px;
}
```

The many styles which include ‘wiki-content’ are necessary to change the font-size for all the tags in the wiki content.

**RELATED LINKS**

Basic Styling Tutorial
Styling Tabs in Confluence
Including Cascading Stylesheets in Themes
Styling Tabs in Confluence

Confluence provides the ability to adjust its visual style via Cascading Style Sheets (CSS). With this feature, it is very easy to change the look and feel of Confluence.

This tutorial shows you how to change the look and feel of Confluence. We will address the Confluence tabs in this tutorial and how we can change their look completely with a few lines of CSS.

Let's take a look at what we are trying to achieve. Notice the dark blue tabs in Screenshot 1? Our goal is to blend them into the background and change the text style as in Screenshot 2.

**Screenshot 1: Default Confluence Tabs in Admin Screen**

At the bottom of this page you can find the code for the custom tabs. Simply copy and paste it into the Space Stylesheet form within the Space Administration section. Let's discuss each selector in detail:

**Container Style**

```css
#navigation, #tab-navigation{
  border-bottom: 1px solid #CCC;
  background-color: transparent;
  margin: 1em 0 2em -5px;
}
```

Let's start with the container around the tabs. We don't want a `#` for the tabs and the container, therefore we will set the `background-color` to be transparent. With the `border-bottom` attribute we will create a thin grey line at the bottom to separate the navigation from the rest of the page. Lastly we adjust the `margins` of the container to create some space around the tabs.

**Tab Style**

```css
.tab-navigation .tab a {
  font-weight: normal;
  color: #999999;
  background-color: transparent;
  border: none;
}
```

Then we style each link within the tab. We set the `font-weight` to normal, to make the tabs less dominant and change the color to a dark grey. We also have to specify the `border` and `background-color` attributes explicitly to overwrite the default styles in Confluence. If we don't
specify the background color for example, the blue color of the default style will be applied.

**Hover Style**

```css
.tab-navigation .tab a:hover {
  font-weight: normal;
  color: #0088CC;
  background-color: transparent;
  border: none;
}
```

Now we want to specify the hover attributes of the links. Note that we have to overwrite the `background-color` and the `border` attributes again, otherwise the default styles will be applied. We also change the color of the text for the hover effect of the link.

**Currently Selected Element Style**

```css
ul.tab-navigation .current a:hover, ul.tab-navigation .current a {
  color: #000000;
  background-color: transparent;
  border: none;
}
```

The last selector we will need to customise is the element with the class current. Note that we use a more specific selector this time. The reason we are doing this is because these specific selectors are used in the default CSS stylesheet. If we were to use more general selectors, like we did above (ignoring the `ul`), the default style would still be applied since more specific selectors are rendered with a higher priority. We want to keep the general style of the other links but simply change the `color` of the text to black.

**Complete CSS Style**

Simply copy and paste the code below to change the look of the tabs in Confluence.

```css
/* @group Tab Styles */

.tab-navigation .tab a {
  font-weight: normal;
  color: #999999;
  background-color: transparent;
  border: none;
}

.tab-navigation .tab a:hover {
  font-weight: normal;
  color: #0088CC;
  background-color: transparent;
  border: none;
}

#navigation, #tab-navigation{
  border-bottom-color: #CCC;
  margin: 1em 0 2em -10px;
  background-color: transparent;
}

ul.tab-navigation .current a:hover, ul.tab-navigation .current a {
  background-color: transparent;
  border: none;
  color: #000000;
}
/* @end */
```

**RELATED LINKS**

- Basic Styling Tutorial
- Styling Tabs in Confluence
- Including Cascading Stylesheets in Themes

**Themes Configuration**

- Applying a Theme To A Site
Applying a Theme To A Site

Themes can be applied across the site or to individual spaces.

Themes can be installed as plugins. Once a theme has been installed, a Confluence administrator can apply it via the Administration Console. Once installed, themes become available to be applied across a site or to individual spaces. Any theme applied at the global level will become the default theme for all spaces in the site.

To apply a theme across the site,

1. Ensure that the theme plugin you wish to apply has been installed.
2. Go to the Confluence Administration Console. To do this:
   * Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
3. Select 'Themes' under 'Look and Feel' in the left navigation panel.
4. If there are any themes installed, they will be listed here.
5. Select a theme and click 'Confirm'.

Screenshot : Applying a theme

**Current Theme**

The current theme controls the layout and colours of this space.

**Default Theme**

Assign the default Confluence look and feel. You can customise colour-schemes and layouts manually.

**Choose New Theme**

To change the theme of this space, select one below.

1. **Left Navigation Theme**
   Provides a navigation bar on the left hand side of the screen.

2. **Clickr Theme**

Screenshot : Choosing a new theme

RELATED TOPICS

- Adding a theme icon
Creating a Theme

There are three steps involved in creating a theme:

- **Modifying the look and feel of Confluence**: Work with the different components that define the look and feel of Confluence and modify them to suit your theme:
  - Layout
  - Colour Scheme (optional)
  - Stylesheet (optional)

- **Configuring the atlassian-plugin.xml file**: Edit the central configuration file for the theme plugin to reference the new files defining your theme.

- **Adding a theme icon**: Add a preview icon for your theme.

- **Deploying the theme as a plugin**: Bundle the files into a jar file and deploy the theme as a plugin into Confluence.

Unsure what a theme is?

RELATED TOPICS

- Adding a theme icon
- Including Cascading Stylesheets in Themes
- Applying A Theme To A Space
- Themes Overview
- Applying a Theme To A Site
- Creating a Theme

Adding a theme icon

A theme icon can be packed with a theme to give the user a little preview on how the theme will change the layout of Confluence. If you do not specify a custom icon for your theme, a default icon will be shown in the preview.

**Defining the theme icon in the atlassian-plugin.xml**

To include an icon in the theme, you will need to reference it as a [Downloadable Plugin Resource] from within the theme module.

Here is an example where an icon called my-theme-icon.gif is being used in the Dinosaur Theme:

```xml
<theme key="dinosaurs" name="Dinosaur Theme" class="com.atlassian.confluence.themes.BasicTheme">
  <description>A nice theme for the kids</description>
  <colour-scheme key="com.example.themes.dinosaur:earth-colours"/>
  <layout key="com.example.themes.dinosaur:main"/>
  <resource name="themeicon.png" type="download" location="com/example/themes/dinosaur/my-theme-icon.png">
    <property key="content-type" value="image/png"/>
  </resource>
</theme>
```

The resource parameter takes three arguments:

- **Name**: The name of the icon (has to be themeicon.png).
• **Type**: The type of resource—in this instance, ‘download’.
• **Location**: The location of the file represented in the jar archive you will use to bundle your theme.

The icon will automatically appear on the themes screen in the space and global administration and will be displayed next to the text and description of the theme.

**Creating your own theme icon**

In order to keep the look and feel of the icons consistent, we recommend to base the icon style on icons shipped with the Confluence themes. A good starting point when creating new icons is to use the default theme icon or the left navigation theme icon:

Unable to render embedded object: File (main-theme.gif!  !leftnav-theme.gif) not found.

**RELATED TOPICS**

- Adding a theme icon (Confluence Docs 3.0)
- Including Cascading Stylesheets in Themes (Confluence Docs 3.0)
- Applying A Theme To A Space (Confluence Docs 3.0)
- Themes Overview (Confluence Docs 3.0)
- Applying a Theme To A Site (Confluence Docs 3.0)
- Creating a Theme (Confluence Docs 3.0)

---

**Customising the Left Navigation Theme**

**Introduction**

Confluence comes bundled with the *Left Navigation* theme. This theme has a navigation menu on the left-hand side of the screen, which can be customised to contain additional links, sections and even macros.

**Creating a custom navigation page**

By default, the left-navigation theme just displays the space icon (or profile icon for a personal space), and three menus: page operations, browse space, and add content.

To add your own content to the top, create a page in your space called 'Navigation'. Put content there that you want to appear on the left navigation menu.

A couple of tips:

- items in a bulleted list show up as normal menu items
- use ‘h1’ to add a section heading for your menu items.

**Examples**

As an example, create a page called ‘Navigation’ with the following content:

```text
h1. Search engines

* [Google][http://www.google.com]
* [Yahoo][http://www.yahoo.com]
* [MSN][http://search.msn.com]
```

This will give a left navigation menu like the image on the side of this page.

You can see another example of customised left-navigation theme on the **Codegeist space** with its associated **Navigation page**.

Alternative left-hand navigation

To insert an expandable/collapsible left-hand navigation menu, try the \{pagetree\} macro, supplied by the PageTree Plugin. You can follow the instructions to add the \{pagetree\} macro to your Confluence page layout. Note that this looks better if you use the Confluence Default theme rather than the Left Navigation theme.

RELATED TOPICS

Adding a Navigation Sidebar

Deploying the theme as a plugin

This documentation is only applicable to Confluence 2.5.x and earlier. To create a new plugin in Confluence 2.6 and later, please refer to Writing Confluence Plugins.

This page tells you how to deploy your own custom theme after you have created it. If you need to apply an already-installed Confluence theme to your Confluence site or space, please refer to one of the following pages instead:

- Applying a Theme To A Site
- Applying A Theme To A Space

In order to deploy your custom Confluence theme, you will have to have Ant installed. To learn how to install and use Ant, please follow the instructions on the projects website.

To deploy the theme, execute the following command from within the theme directory in your Confluence installation:

```
ant build -Dtheme=<specifynameoftheme>
```
For example to build a theme with the name *dinosaur*, you will have to type:

```
ant build -Dtheme=dinosaur
```

You will find the build jar of the dinosaur theme in your Confluence install directory under `.../themes/dinosaur/dist_` directory.

**Installing the theme**

To install the theme you can simply drop the previously created .jar file into the `.../confluence/WEB-INF/lib` directory in your Confluence installation as described under Installing and Configuring Plugins.

As a second option, you can also call the following ant command instead of the one found above to install the theme and copy the jar automatically in the appropriate directory:

```
ant install -Dtheme=<specifynameoftheme>
```

**Read more about plugins**

**To change the time and date formats,**

1. Go to the *Administration Console* and click on *General Configuration* in the left panel.
2. Click *Edit* at the bottom of the *Options and Settings* screen.
   - There are three time and date format settings:
     - Time Format: determines the time format for when each news item is posted
     - Date Time Format: determines date and time format for historical versions of pages.
     - Date Format: determines date and time format for all new and modified content.
3. Change the formats using the guidelines in this document.
4. *Save* your changes.

**RELATED TOPICS**

- Adding a theme icon (Confluence Docs 3.0)
- Including Cascading Stylesheets in Themes (Confluence Docs 3.0)
- Applying A Theme To A Space (Confluence Docs 3.0)
- Themes Overview (Confluence Docs 3.0)
- Applying a Theme To A Site (Confluence Docs 3.0)
- Creating a Theme (Confluence Docs 3.0)

**Including Cascading Stylesheets in Themes**

Confluence allows you to integrate your own stylesheets within the theme plugin so you can have greater control over the appearance of your site. Confluence's main stylesheet is a useful reference when overriding styles and can be found in the Confluence install directory under `...confluence/styles/site-css.vm`.

**CSS for Confluence 2.6**

Please refer to the information about changes in Confluence 2.6.

**Step One: Defining the stylesheet in the atlassian-plugin.xml**

To make a stylesheet available to a decorator, you will need to reference it as a resource from within the central configuration file - `atlassian-plugin.xml`.

Here is an example where a stylesheet is being used to define the 'leftnavigation' theme:
1. **Type**: The type of resource—in this instance, 'stylesheet'.
2. **Name**: The name of the stylesheet.
3. **Location**: The location of the file represented in the jar archive you will use to bundle your theme.

### Step Two: Using the stylesheet in the decorator

To reference the stylesheet in the decorator, you will need to use the `#pluginStylesheet` velocity macro.

For example, here’s how you reference the `leftnav.css` file defined in the layout entry above:

```
#pluginStylesheet("com.atlassian.confluence.themes.leftnavigation:main" "leftnav.css")
```

The macro takes two arguments:

- **completePluginKey**: The complete plugin key which is constructed from the plugin key and the layout key like this: `{pluginKey}:{layoutKey}`
  
  In the above example, `com.atlassian.confluence.themes.leftnavigation` is the key of the plugin, and `main` is the key of the layout.
- **stylesheetName**: The name of the stylesheet.

If you place your stylesheet after the `#standardHeader` macro in the decorator, the contents of your custom stylesheet will override those in Confluence’s default stylesheet.

If your stylesheet needs to reference the colour scheme, you need to use the `#pluginSpaceStylesheet` macro instead:

```
#pluginSpaceStylesheet("com.atlassian.confluence.themes.leftnavigation:main" "leftnav.css" $spaceKey)
```

You can then use colour scheme references in your stylesheet, similar to Confluence’s stylesheets, and they will be replaced with the appropriate global or space-specific colour scheme:

```
.navItemOver {
  color: $action.navSelectedTextColor;
}
```

### RELATED TOPICS

- [Adding a theme icon](Confluence Docs 3.0)
- [Modifying Look and Feel (for themes)](Confluence Docs 3.0)
- [Applying Cascading Stylesheets in Themes](Confluence Docs 3.0)
- [Applying A Theme To A Space](Confluence Docs 3.0)
- [Themes Overview](Confluence Docs 3.0)
- [Creating a Theme](Confluence Docs 3.0)
2. Colour schemes: Configure a new colour scheme for your theme. Optional
   - Configuring a new colour scheme
   - Configuring the atlassian.plugin.xml file to include the new colour scheme

3. Stylesheet: Include a stylesheet to define your theme. Optional

Note that for every component you edit, you will need to configure the atlassian-plugin.xml which is the central configuration file for the plugin to override the default files with the new files you've created.

---

**Layout: Working with decorators**

**What are decorators?**

Confluence is built on top of the Open Source SiteMesh library, a web-page layout system. To edit the layout of Confluence, you will need to modify these decorator files. A decorator file is a '.vmd' file and is written in a very simple programming language called Velocity. Learn more about Velocity.

Confluence comes bundled with a set of decorator or VMD files that you can customize. Broadly these are categorised into Site, Content and Export decorators. These are further grouped into categories called contexts and under each context has various modes (ways of viewing the context).

To make editing easier, layout for similar screens (example: view and edit page screens) is configured through the same VMD file. So, if you want to customize how the Confluence View Page Screen or Edit Page Screen looks, you can make both of these changes inside one decorator file: page.vmd.

<table>
<thead>
<tr>
<th>Decorator</th>
<th>Context</th>
<th>Mode</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>page.vmd</td>
<td>page</td>
<td>'view', 'edit', 'edit-preview',</td>
<td>We prefer to use 'news' as an end-user term; all templates and classes use 'blogpost' to indicate RSS related content</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'view-information', and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>'view-attachments'</td>
<td></td>
</tr>
<tr>
<td>blogpost.vmd</td>
<td>blogpost (news)</td>
<td>'view', 'edit', 'edit-preview', and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>'remove'</td>
<td></td>
</tr>
<tr>
<td>mail.vmd</td>
<td>mail</td>
<td>'view', 'view-thread' and 'remove'</td>
<td></td>
</tr>
<tr>
<td>space.vmd</td>
<td>space-pages, space-mails,</td>
<td>CONTEXT: &quot;space-pages&quot;. MODES:</td>
<td>space.vmd handles a wide range of options, this context is accessed by clicking on 'browse space' in the default theme of Confluence (tabbed theme)</td>
</tr>
<tr>
<td></td>
<td>space-blogposts, space-templates,</td>
<td>&quot;list-alphabetically&quot;&quot;,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>space-operations, space-</td>
<td>&quot;list-recently-updated&quot;,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>administration</td>
<td>&quot;list-content-tree&quot;, &quot;create-page&quot;,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CONTEXT: &quot;space-mail&quot;. MODES:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;view-mail-archive&quot;.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CONTEXT: &quot;space-blogposts&quot;. MODES:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;view-blogposts&quot;, &quot;create-blogpost&quot;.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CONTEXT: &quot;space-templates&quot;. MODES:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;view-templates&quot;, CONTEXT: &quot;space-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;operations&quot;. CONTEXT: &quot;space-administration&quot;. MODES:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;view-space-administration&quot;, CONTEXT: &quot;list-permission-pages&quot;.</td>
<td></td>
</tr>
<tr>
<td>global.vmd</td>
<td>global</td>
<td>'dashboard', 'view-profile',</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>'edit-profile', 'change-password-profile',</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>'edit-notifications-profile'</td>
<td></td>
</tr>
<tr>
<td>main.vmd</td>
<td>n/a (header and footer formatting)</td>
<td></td>
<td>main.vmd is used to control the header and footer of each page, not the page specific presentation logic</td>
</tr>
</tbody>
</table>

For example, if you wanted to remove the 'Attachments' tab on the view page screen, you would make this layout change in the page.vmd file - where the 'view' mode is handled (as shown below).
# Step One: Copying the decorators

The easiest way to begin configuring a new layout is by copying the default decorator files and editing them to suit your theme.

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
   - Select Layouts in the left panel. This will display options to view and edit the default decorators.
   - Copy the files that you intend to modify and place them in a directory structure that makes sense to you. See example below.

# Step Two: Creating a directory structure for the decorators:

You should place your decorators in a directory hierarchy which makes sense to you. We recommend that you place the atlassian-plugin.xml file at the top level of the directory structure, and then place the decorators in directories which make a meaningful division of what they do.

Here is an example:

```xml
<atlassian-plugin xmlns="http://schemas.openxmlformats.org/package/2006/manifest">
  <manifestContent/>
</atlassian-plugin>
```

# Step Three: Editing the decorators

To edit the decorators, you will require knowledge of a very simple programming language called Velocity. Learn more about Velocity.

## Decorator Macros

When editing the decorators, you will need to use Decorator Macros to draw complex or variable parts of the page such as menus and breadcrumbs. See Working With Decorator Macros

## Theme Helper Object

When editing decorator files you will also come across a variable called $helper - this is the theme helper object.

The following table summarises what this object can do:

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$helper.domainName</td>
<td>displays the base URL of your Confluence instance on your page. This is useful for constructing links to your own Confluence pages.</td>
</tr>
<tr>
<td>$helper.spaceKey</td>
<td>returns the current space key or null if in a global context.</td>
</tr>
<tr>
<td>$helper.spaceName</td>
<td>returns the name of the current space</td>
</tr>
<tr>
<td>$helper.renderConfluenceMacro(&quot;create-space-button&quot;)</td>
<td>renders a call to a Confluence Macro for the velocity context</td>
</tr>
<tr>
<td>$helper.getText(&quot;key.key1&quot;)</td>
<td>looks up a key in a properties file matching key.key1=A piece of text and returns the matching value (&quot;A piece of text&quot;)</td>
</tr>
</tbody>
</table>
$helper.action returns the XWork action which processed the request for the current page.

If you are on a page or space screen you also have access to the actual page and space object by using $helper.page and $helper.space respectively.

If you want to deliver more into what other methods are available in this object, please see our API's for ThemeHelper.

Step Four: Configuring the central configuration file to reference the new decorators

How to do this is explained in Configuring the theme plugin

Working with colour schemes for themes

Configuring the colour scheme

The easiest way to configure a colour scheme is to do it dynamically from the Administration Console (as you would normally when you want to change the site's colour scheme online), and then express it as an xml file. This method makes it possible for you to experiment with different colours and test them out before including the colour scheme in your theme.

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Colour scheme' in the left panel.
3. Use the colour picker to define the colours for the following UI elements:
   - Top Bar - the bar across the top of the page that contains the breadcrumbs.
   - Space Name Text - the text of the current space name located above the page title.
   - Heading Text - all heading tags throughout the space.
   - Links - all links throughout the space.
   - Borders and Dividers - table borders and dividing lines.
   - Menu Bar Background - background of top navigational buttons
   - Menu Bar Text - text that appears on the menu bar
   - Menu Bar Background Highlight - background colour of menu bar when highlighted.
   - Menu Bar Text Highlight - menu bar text when highlighted

More information on customising colour schemes

Expressing the colour scheme as XML

Once, you have decided on the colours for the different UI elements, you will need to configure the atlassian.plugin.xml to include the new colour scheme. How to do this is explained in detail in Configuring the theme plugin.

RELATED TOPICS

Adding a theme icon

Including Cascading Stylesheets in Themes

Applying A Theme To A Space

Themes Overview

Applying a Theme To A Site

Creating a Theme

Configuring the theme plugin

Each plugin is described in its own atlassian-plugin.xml file, which specifies attributes of the plugin, including a description of each module it contains. Once you have modified the different components to define a new look and feel for your theme, you will need to configure this file so Confluence knows where to look when overriding the default files.

The easiest way to begin is by copying the atlassian-plugin.xml from one of the default themes bundled with confluence and modifying it for your theme.

The structure of an atlassian-plugin.xml file is fairly self-explanatory. In the code segment below you will find a full example of an atlassian-plugin.xml:
Modifying the `atlassian-plugin.xml` file

We will configure this file section by section.

**Plugin information**

```xml
<atlassian-plugin key="com.atlassian.confluence.themes.tables" name="Plain Theme">
  <plugin-info>
    <description>This theme demonstrates a plain look and feel for Confluence. It is useful as a building block for your own themes.</description>
    <version>1.0</version>
    <vendor name="Atlassian Software Systems Pty Ltd" url="http://www.atlassian.com"/>
  </plugin-info>

  <theme key="tables" name="Tabless Theme" class="com.atlassian.confluence.themes.BasicTheme">
    <description>plain Confluence theme.</description>
    <layout key="com.atlassian.confluence.themes.tables:main"/>
    <layout key="com.atlassian.confluence.themes.tables:global"/>
    <layout key="com.atlassian.confluence.themes.tables:space"/>
    <layout key="com.atlassian.confluence.themes.tables:page"/>
    <layout key="com.atlassian.confluence.themes.tables:blogpost"/>
    <layout key="com.atlassian.confluence.themes.tables:mail"/>
  </theme>

  <colour-scheme key="com.atlassian.confluence.themes.tables:earth-colours"/>

  <layout key="main" name="Main Decorator" class="com.atlassian.confluence.themes.VelocityDecorator" overrides="/decorators/main.vmd">
    <resource type="velocity" name="decorator" location="/atlassian/confluence/themes/tabless/main.vmd"/>
  </layout>

  <layout key="global" name="Global Decorator" class="com.atlassian.confluence.themes.VelocityDecorator" overrides="/decorators/global.vmd">
    <resource type="velocity" name="decorator" location="/atlassian/confluence/themes/tabless/global.vmd"/>
  </layout>

  <layout key="space" name="Space Decorator" class="com.atlassian.confluence.themes.VelocityDecorator" overrides="/decorators/space.vmd">
    <resource type="velocity" name="decorator" location="/atlassian/confluence/themes/tabless/space.vmd"/>
  </layout>

  <layout key="page" name="Page Decorator" class="com.atlassian.confluence.themes.VelocityDecorator" overrides="/decorators/page.vmd">
    <resource type="velocity" name="decorator" location="/atlassian/confluence/themes/tabless/page.vmd"/>
  </layout>

  <layout key="blogpost" name="Blogpost Decorator" class="com.atlassian.confluence.themes.VelocityDecorator" overrides="/decorators/blogpost.vmd">
    <resource type="velocity" name="decorator" location="/atlassian/confluence/themes/tabless/blogpost.vmd"/>
  </layout>

  <layout key="mail" name="Mail Decorator" class="com.atlassian.confluence.themes.VelocityDecorator" overrides="/decorators/mail.vmd">
    <resource type="velocity" name="decorator" location="/atlassian/confluence/themes/tabless/mail.vmd"/>
  </layout>

  <colour-scheme key="earth-colours" name="Brown and Red Earth Colours" class="com.atlassian.confluence.themes.BaseColourScheme">
    <colour key="topbar" value="#440000"/>
    <colour key="spacename" value="#999999"/>
    <colour key="headingtext" value="#663300"/>
    <colour key="link" value="#663300"/>
    <colour key="border" value="#440000"/>
    <colour key="navbg" value="#663300"/>
    <colour key="navtext" value="#ffffff"/>
    <colour key="navselectedbg" value="#440000"/>
    <colour key="navselectedtext" value="#ffffff"/>
  </colour-scheme>
</atlassian-plugin>
```
**plugin key**: Specify a key that uniquely identifies the plugin, eg. com.example.themes.dinosaur

**name**: Give the plugin a name.

**description**: Provide a short description of the plugin.

**vendor**: Replace the text with your information.

---

**Theme information**

- **theme key**: Specify a key that uniquely identifies the theme.
- **class**: The class of a theme must implement `com.atlassian.confluence.themes.Theme`. The `com.atlassian.confluence.themes.BasicTheme` class provided with Confluence gathers together all the resources listed within the module definition into a theme.
- **name**: Give the theme a name. Make sure that you replace all instances of the theme name with this name.
- **description**: Provide a short description of your theme
- **colour-scheme key**: A theme can contain an optional `colour-scheme` element that defines which colour-scheme module this theme will use. If you are using a new colour scheme, enter its key.
- **layout key**: A theme can contain any number of `layout` elements that define which layouts should be applied in this theme. Refer to these modules by their `module complete key` as shown above.

---

**Referencing the decorators**

You will need to add a layout entity as shown below for each of the decorators you are using. See [working with decorators](#).

- **class**: The class which each decorator, or layout, is mapped to must implement `com.atlassian.confluence.themes.VelocityDecorator`.
- **overrides**: The layout entry must provide an `overrides` attribute which defines which decorator within Confluence is being overridden by the theme.
- **Location**: Specify the location of the new decorator file, so Confluence know where to look when overriding the default decorator.

   - **It is possible for a theme to use modules that aren't in the same plugin as the theme. Just keep in mind that your theme will be messed up if the plugin that the theme depends on is removed.**

---

**Including the colour scheme**

Colour schemes can be pre-configured for your theme dynamically from the [Administration Console](#). See [configuring colour schemes](#).

To transport them within a theme however, they need to be expressed in the `atlassian-plugin.xml` file as shown above.
**colour-scheme** key: Specify a key that uniquely identifies the colour scheme.

**name**: Give a name to the colour scheme.

**class**: The class of the colour scheme must implement `com.atlassian.confluence.themes.ColourScheme`. The `com.atlassian.confluence.themes.BaseColourScheme` class provided with Confluence sets the colours based on the module's configuration.

**colour key**: For each UI element, you will need to add its name and value.

See configuring colour scheme

**RELATED TOPICS**

- Adding a theme icon
- Including Cascading Stylesheets in Themes
- Applying A Theme To A Space
- Themes Overview
- Applying a Theme To A Site
- Creating a Theme

**Themes Overview**

Themes are pre-defined styles that can be applied to alter the appearance of your site.

Use themes when you want to add new functionalities or to change the appearance of Confluence. For example, you will need to use themes to apply a left-navigation scheme instead of the default top-navigation scheme.

Themes are installed as plugins and added via the **Administration Console**. Once installed, themes can be applied across the site or to individual spaces.

To look at the themes installed,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Themes' under 'Look and Feel' in the left navigation panel.
3. If there are any themes installed, they will be listed here.

What do you want to do?

- **Apply a theme**
- **Create a new theme**
- **Include cascading stylesheets in a theme**
Importing Data

- Importing Content from another Wiki
- Snip Snap Import
- Universal Wiki Converter
- Importing Content Into Confluence

Importing Content from another Wiki

The Universal Wiki Converter (UWC) allows you to import content from other wikis into Confluence. The Confluence Administration Console offers a link to the Universal Wiki Converter documentation and download sites.

You need to install and run the UWC separately from Confluence.

The UWC is a standalone application that communicates with Confluence remotely. You cannot install the UWC directly into Confluence. Instead, download the UWC separately and run it according to the instructions below.

The UWC supports many wiki dialects. In addition, the UWC is an extensible framework, which means that developers can continue writing new conversion modules for other wikis. To see the latest list of conversions available, please refer to the UWC documentation.

- Download the latest version of the UWC.
- For information on installation and usage, see the UWC Quick Start Guide.
- For information on developing your own converter module, see the UWC Developer Documentation.
- For information about a specific wiki, including a list of currently supported wikis, see the UWC documentation.
- If you have questions or would like to share information about the UWC, please visit the UWC Forum.

Screenshot: Links from the Confluence Administration Console to the UWC
Snip Snap Import

The snipsnap importer allows you to import a Snip Snap XML backup file into a space in Confluence.

What is Snip Snap?
Snip Snap is a wiki used as a knowledge and content management tool. For more information, take a look at the Snip Snap home page and the Wikipedia page about Snip Snap.

Some limitations:
- Currently, attachments are not imported, and Confluence does not recognise duplicate users.
- You cannot import content into multiple spaces.

You need to have System Administrator permissions in order to perform this function.

To import a Snip Snap backup file into Confluence,
1. First, use Snip Snap to export a backup to an XML file. Now return to Confluence.
2. Go to the Confluence ‘Administration Console’. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
3. Select 'SnipSnap Import' in the left-hand panel.
4. Enter the location of the Snip Snap backup file in the input field displayed. You can also ‘browse’ and locate the file.
5. Select a space to import the content into and click ‘Save’.

**RELATED TOPICS**

**Importing Data**

**Installing Plugins and Macros**

A **plugin** is an add-on to the core Confluence code, which can extend the Confluence functionality. Some plugins are shipped with Confluence, others are available for you to install yourself.

A **macro** allows a developer to perform programmatic functions within a page, and gives the Confluence user access to more complex content structures. Many macros are made available by plugins.

**Installing Plugins**

You need to have **System Administrator** permissions in order to install and configure plugins. This page introduces two methods of installing plugins:

- Via the Plugin Repository Client
- Manually

**Installing and Configuring Plugins using the Plugin Repository Client**

If the plugin you wish to install is listed in the Confluence Plugin Repository, you can use the Confluence Repository Client to install it. In the ‘Administration’ section of Confluence, click the Plugin Repository. Then find the plugin in the list and click the ‘Install’ link. There’s more information in Installing and Configuring Plugins using the Plugin Repository Client.

**Installing and Configuring Plugins Manually**

If the plugin you wish to install is not listed in the Confluence Plugin Repository, you can still install it by uploading the plugin jar file to your Confluence site. In the ‘Administration’ section of Confluence, click the ‘Plugins’ link.

There’s more information in Installing and Configuring Plugins Manually.

**Troubleshooting**

**Problem Loading the Plugin Repository with IE7**

There is a problem using the Plugin Repository with Internet Explorer 7. You may see an error message saying ‘Object error’. In this case, the browser will just hang until you close the browser window or tab.

This problem is caused by a bug in IE7, which Microsoft have fixed in Windows Service Pack 3. Details are on our JIRA site at CONF-10837. There are some workarounds for those who cannot install the Microsoft Service Pack. You can use a different browser instead of IE7, such as Firefox. Or you can upload the plugin jar into Confluence manually, via the ‘Plugins’ option in the Administration Console. See Installing and Configuring Plugins Manually.

**RELATED TOPICS**

- Configuring the Office Connector
- Installing and Configuring Plugins Manually
- Installing and Configuring Plugins using the Plugin Repository Client
- Plugin loading strategies in Confluence
- Removing Malfunctioning Plugins
- Enabling and Configuring Macros
  - Configuring a URL Whitelist
  - Configuring the userlister Macro
  - Editing and Removing macros
  - Enabling HTML macros
    - Enabling the html-include Macro
Configuring the Office Connector

The Office Connector is a Confluence plugin that allows Confluence users to interact with Microsoft Office and Open Office in various ways. You can display content from Office documents on a wiki page, import content from an Office document into Confluence, and edit a Confluence page in Microsoft Word. Please refer to the User Guide for details of these interactions.

A System Administrator can enable or disable parts of the Office Connector and can configure options as described below.

On this page:

- Enabling and Disabling the Office Connector and its Modules
- Configuring the Office Connector Options

Enabling and Disabling the Office Connector and its Modules

A System Administrator can install, enable or disable plugins and plugin modules. You can read a general overview in Installing Plugins and Macros.

The Office Connector is bundled with Confluence 2.10 and later, so you should not need to install it. But you may wish to enable or disable some of its modules.

To enable or disable the Office Connector and its modules,

1. Select 'Plugins' in the left-hand panel of the Confluence Administration Console.
2. Search the page for 'Office Connector plugin' and select the link.
3. The 'Office Connector plugin' panel will appear near the top centre of the page, as shown in the screenshot below.
4. Now you can do one of the following:
   - **Configure plugin** — This will take you to the separate plugin configuration screen described below.
   - **Disable plugin** — Click this link if you want to disable all modules of the plugin, but leave the plugin installed on your Confluence site.
   - **Uninstall plugin** — Click this link if you want to remove the Office Connector permanently from your Confluence site. To restore it at a later date, you will need to re-install it from the Confluence Plugin Repository.
   - **You can also enable or disable one or more of the Office Connector modules, as described in the table below.**

Screenshot: Enabling the Office Connector plugin and its modules
The following modules are available for the Office Connector plugin:

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OC Settings Manager</td>
<td>Component to read and write persistent settings for the Office Connector.</td>
</tr>
<tr>
<td>Slide Cache Manager</td>
<td>Component to cache slide-based conversions when displaying PowerPoint and PDF documents.</td>
</tr>
<tr>
<td>Html Cache Manager</td>
<td>Component to cache HTML-based conversions when displaying Word and Excel documents.</td>
</tr>
<tr>
<td>File Cache Cleanup Job</td>
<td>This module is a recurring task that cleans up the Office Connector file cache.</td>
</tr>
<tr>
<td>File Cache Cleanup</td>
<td>This module is the trigger for the File Cache Cleanup Job.</td>
</tr>
<tr>
<td>Office Connector administration link</td>
<td>This module supplies the 'Office Connector Configuration' link in the left-hand panel of the Confluence Administration Console. The link gives access to the plugin configuration screen described below.</td>
</tr>
</tbody>
</table>
Link for previewing a search result | This module supplies the 'View' link which appears next to attachments displayed in search results, where the attachment is an Office document.

Link for previewing an attachment | This module supplies the 'View' link which appears next to attachments displayed on the 'Attachments' view of a page, where the attachment is an Office document.

Edit in Word UI on page actions | This module supplies an 'Edit in Word' icon which appears in older versions of Confluence, at the top right of the page with other icons such as the 'Browse Space' and 'Add Page' icons. Not relevant to Confluence 2.10 or later, except for custom themes. You can configure the location of this option on the Office Connector configuration screen, as described below.

Edit in Word UI on drop down menu | This modules supplies the 'Edit in Word' link which appears in the Confluence 'Tools' dropdown menu.

editinwordlink | This modules supplies the {editinwordlink} macro. See Edit in Word Link Macro.

viewfile | This module supplies the {viewfile} macro. See View File Macro.

viewdoc | This module supplies the Word document component of the {viewfile} macro.

viewxls | This module supplies the Excel document component of the {viewfile} macro.

viewppt | This module supplies the PowerPoint document component of the {viewfile} macro.

viewpdf | This module supplies the PDF document component of the {viewfile} macro.

editgrid | This module is used to migrate editgrid users to the Office Connector.

Edit in Word UI on page tabs | This module supplies an 'Edit in Word' tab which appears in older versions of Confluence, next to the 'View', 'Edit', 'Attachments' and 'Info' tabs. Not relevant to Confluence 2.10 or later, except for custom themes. You can configure the location of this option on the Office Connector configuration screen, as described below.

Import Word UI on page tabs | This module supplies a 'Doc Import' tab which appears in older versions of Confluence, next to the 'View', 'Edit', 'Attachments' and 'Info' tabs. Not relevant to Confluence 2.10 or later, except for custom themes.

Import Word UI on drop down menu | This modules supplies the 'Doc Import' link which appears in the Confluence 'Tools' dropdown menu.

Edit in Office javascript resource | This module contains the javascript resources for launching the desktop applications for editing Office documents.

Office Connector Servlet | This module allows Confluence users to edit their Confluence pages in Microsoft Word. It performs the conversion to and from Word.

Office Authenticator Filter | This module authenticates HTTP requests from Office applications.

PPT slide web service | This module allows Confluence users to view a PowerPoint presentation on a wiki page. It provides the slide images to the Flash control which displays the slides on the wiki page.

DOC and XLS image cache web service | This module is required if Confluence users want to view a Word document or an Excel spreadsheet on a wiki page. It allows images to be stored in a cache on the server, so that they can be retrieved when the browser renders the HTML page.

Office Connector Actions | This module must be enabled if the Office Connector is used.

Configuring the Office Connector Options

A Confluence administrator can set the options described below, to determine the behaviour of the Office Connector on your Confluence site.

To set the configuration options for the Office Connector,

1. Select 'Office Connector Configuration' in the left-hand panel of the Confluence Administration Console.
2. The 'Configure Office Connector plugin' screen will appear. Set the configuration options as described in the table below.

Screenshot: Configuring the Office Connector options
The configuration options are described in the table below:

<table>
<thead>
<tr>
<th>Option</th>
<th>Default Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit in word button location</td>
<td>'Tools' menu.</td>
<td>This setting determines the location of the 'Edit in Word' option on the Confluence menus or screens. You may want to change the location if you are using a theme which does not support the default location. Note that you must ensure that the relevant plugin modules are enabled, as described above. Available settings are:</td>
</tr>
</tbody>
</table>
|                                             |               | • Page action icon — An icon at the top right of the page with other icons such as the 'Browse Space' and 'Add Page' icons.  
|                                             |               | • View page tab — A page tab, next to the 'View', 'Edit', 'Attachments' and 'Info' tabs. |
| Warnings: Show a warning before allowing a user to perform an import | Disabled | If this option is enabled, the user will receive a warning when importing a Word document. The warning will tell the user when they are about to overwrite existing content. |
| Advanced Formatting Options: Use the footnote macro for Word footnotes | Disabled | If this option is enabled, a Confluence page created from an imported Word document will use the {footnote} macro from Adaptavist to render any footnotes contained in the document. Note that you will need to install the Footnotes Plugin onto your Confluence site. For more information about this plugin and macro, please refer to the Footnotes Plugin. |
| Authentication: Allow authentication tokens in the URL path | Disabled | If this option is enabled, the Office Connector will use authentication tokens in the URL. |
| Temporary storage for viewfile macro | The Confluence Home directory. | The {viewfile} macro will cache data temporarily. This option allows you to set the location of the cache. If you are running in a clustered environment, we recommend that you use the Cache in-memory setting. |
| Number of Conversion Queues | 6 | This is the maximum number of threads used to convert PowerPoint or PDF slide shows. You can use this setting to manage Confluence performance, by limiting the number of threads so that the Office Connector does not consume too many resources. Click the Manage Queues link to view attachments that are still pending conversion. |

**RELATED TOPICS**
- Office Connector Prerequisites
- Office Connector Limitations and Known Issues
- Working with the Office Connector
- Installing Plugins and Macros
Installing and Configuring Plugins Manually

This document is for administrators who wish to install new plugins or manage the plugins installed in their Confluence server. For an overview of how plugins work in Confluence, read the Confluence Plugin Guide.

You need to have System Administrator permissions in order to install and configure plugins.

> Looking for existing plugins?
See the existing plugins and extensions written by the community in the Confluence Extensions space.

> The Plugin Repository
The Plugin Repository provides an alternative way to install plugins directly from the plugin libraries.

> Plugin Safety
Plugins are very powerful: they can change the behaviour of almost any part of the Confluence server. This makes it very important that you trust a plugin before you install it. Always be aware of where (and who) a plugin comes from.

Installing a Plugin Manually

Plugins are distributed as a jar file. To install a plugin:

1. In the 'Administration' section of Confluence, click the 'Plugins' link.
2. Use the 'Choose file' button to find the plugin jar you wish to install from your hard drive or network location, and select it.
3. Click 'Upload'.
4. The plugin will be uploaded to Confluence and will be automatically installed.
5. Check the 'Plugin Administration' screen to ensure if the plugin is available.
6. Enable the plugin if necessary. (Some plugins will be enabled by default when they are installed. Others will have to be manually enabled from the Plugin Administration screen.)

Enabling and Disabling Plugins
As administrator, you can enable and disable plugins, and the plugin modules which form part of each plugin. You can do this from the 'Plugins' section of the administration screen. All plugins installed in the Confluence server are listed on the left-hand side. To enable or disable a plugin or its modules, click the plugin name.

On the right-hand side, a description of the plugin is shown, including its component plugin modules.

You can enable or disable the whole plugin:

![Plugin Manager](image)

- **NOTE:** This plugin is disabled. You must enable it to enable or disable individual modules.

Or each module individually:

![Plugin Manager](image)

Disabling a plugin module **may** cause other modules in the same plugin to cease to function correctly. When in doubt, make sure you disable or enable the entire plugin.
Plugin Safety
Plugins are very powerful: they can change the behaviour of almost any part of the Confluence server. This makes it very important that you trust a plugin before you install it. To help ensure the authenticity of a plugin, always be aware of its origins and/or its creator.

The Plugin Repository provides an easy way to install and configure plugins.

- If you are using Confluence version 2.3 or later, the Plugin Repository is included as part of Confluence.
- If you are using Confluence 2.0 - 2.2.10, you can use the Plugin Repository after you install the Confluence Repository Client.
- Confluence versions prior to 2.0 cannot use the Plugin Repository, so you will need to install and configure plugins manually instead.

You need to have System Administrator permissions in order to install and configure plugins.

On this page:
- Using the Plugin Repository
  - Filtering the List of Plugins
  - Using the List of Plugins
- Viewing Plugin Modules and Versions
  - Administering the Plugin Repository
  - Uploading a Non-Repository Plugin
  - Obtaining More Information About Plugins in the Plugin Repository
- Troubleshooting

Using the Plugin Repository

Go to the ’Administration Console’ and click ’Plugin Repository’ in the left-hand panel. The following will be displayed:

![Screenshot: Plugin Repository]

Filtering the List of Plugins

Along the top of the page, you'll see three items which allow you to choose the plugins you want displayed:

- **Status filter** — Defaults to ’All Plugins’. Choose one of the following to limit the list of plugins displayed:
  - ’Installed Plugins’ — Plugins which have been installed on your Confluence instance.
  - ’Outdated Plugins’ — Plugins for which updates are available
  - ’Available Plugins’ — Plugins which are available, but have not yet been installed.
  - ’Supported Plugins’ — All plugins which are supported by Atlassian or a third-party.
- **Search** — Enter text in the middle textbox to quickly find what you're looking for:
  - Quickly locate plugins by searching on their title, description, vendor and other details. Just type what you are looking for and let Confluence do the rest
  - The search results are filtered by the status filter (as discussed above), so if you want to see all installed plugins from
Adaptavist.com, for example, set the filter to 'Installed Plugins' and type 'Adaptavist.com' into the search box.

- **Categories list** — Filter by category:
  - Simply choose the desired category from the list and only plugins relating to that category will be displayed.
  - Note that plugins can exist in more than one category.

**Using the List of Plugins**

Under the filter options, the list of plugins matching the current filter settings is shown in a table.

Each column in the table shows information about a particular plugin, and allows you further configuration options:

- **Plugin Name** — Displays the name of the plugin (linked to the detailed information page) and the plugin vendor (linked to their website if applicable)
  - Click the '+' icon to expand the information display showing plugin description.
  - Click the '-' icon to hide the description again.
- **Payment** — Can be one of the following:
  - Free (self explanatory)
  - Donate (it's free, but you should consider donating to keep it that way)
  - Buy (it's commercial - click the link to show a price list and purchase online)
- **Status** — Shows the current status of this plugin in respect to your Confluence installation:
  - Installed - installed and up-to-date
  - Outdated - installed, but there are new versions available
  - Available - not installed yet
  - Non Repository - a version is installed which is not in the repository
- **Support** — Tells you who supports the plugin:
  - 'Atlassian' — The plugin is supported by Atlassian. If you have any problems, please raise a ticket at the Atlassian Support System.
  - 'Unsupported' — The plugin has been developed by a third party, not by Atlassian, and is not currently supported by Atlassian. In addition, the third party has not yet given detailed information about support arrangements. This does not necessarily mean that the plugin is not supported. Please refer to the plugin's home page in the Confluence Extension space or the Atlassian Plugins Exchange site.
  - The 'Support' column can also contain a link to the third-party plugin support site.
- **Install** — Install, upgrade or uninstall a plugin:
  - When installing or upgrading, everything is automatic (i.e. it downloads and installs for you, etc). Although the client (since 1.0.2) warns you of dependencies and (since 1.0.3) will do its best to check what has been downloaded is what you asked for - Confluence may break as if you had uploaded the plugins to the Plugin Manager yourself. Where it can, the client will error constructively allowing you to choose the best course of action for yourself. In general, things usually work - and if they don't it's a bug with the client or the metadata.
  - If the Confluence Repository Client encounters a password request when downloading the plugin (usually case with Commercial plugins), you will be prompted for a username and password.
  - If the plugin is installed into WEB-INF (or otherwise uninstallable) it will display 'Manually Installed. where the actions would be.
- **Enabled** — If the box is ticked, the plugin is enabled, otherwise it's either disabled or partially disabled. You can enable or disable individual modules within the plugin from the plugin details screen (see later).
- **Configure** — If the plugin offers further configuration options, you can click the 'Configure' link. A new screen will open, showing the specific options offered by the plugin.

You can click the table headings to sort the table. Click a second time to reverse the sort.

**Viewing Plugin Modules and Versions**

When you click the name of a plugin in the plugin list, you'll be taken to the detailed view for that plugin. General information and plugin module details are shown at the top of the display and from here you can disable or enable individual modules.

⚠️ **Note:** Disabling a plugin module may cause other modules in the same plugin to cease to function correctly. When in doubt, make sure you disable or enable the entire plugin.

Near the bottom of the display a table outlines all plugin versions and shows which you have installed. Just like the plugins list, you can click the '+' to expand the details shown for a specific version.

This screen also allows you to quickly install, upgrade, downgrade and uninstall any version of the plugin.

**Administering the Plugin Repository**

There are various settings on the 'Admin' tab.

The most important of these is the 'Data Source' — without this, you'll see no plugins in the list and will get a fair number of errors.

The 'Earliest Plugin State' allows you to filter the plugin list to versions at or above a specific state: Alpha, Beta, Release Candidates, Stable. If you are running in a production environment, you will usually want to set this setting to 'Stable + Release Candidates' or 'Stable Only'.

The 'Plugin Compatibility' setting allows you to restrict the list to only show plugin versions that are specifically known to work with your version of Confluence.

⚠️ In many cases, plugins will work with your version of Confluence, but they might be marked as 'unknown' compatibility if the plugin author
hasn't been able to test with that specific Confluence version. As such, it's extremely useful if you find an 'unknown' version of a plugin to work (or not work) with your Confluence that you let us know (by any means possible) so that we can update the repository to reflect this.

The 'Category Visibility' setting allows you to trim down the categories list by hiding categories that don't contain a plugin yet.

**Uploading a Non-Repository Plugin**

There are several plugins that are not currently listed by the Plugin Repository which need to be manually uploaded either as a file or from a remote server URL.

If you want to install such a plugin:

1. Click the 'Upload' tab.
2. Enter either the file name or the URL of the remote server URL.
3. Click the 'Install' button.

**Obtaining More Information About Plugins in the Plugin Repository**

Above we have described the 'Plugin Repository' screen in the Administration Console. For more information about these plugins, please refer to its page on the Atlassian Plugins Exchange site. To find a specific plugin quickly on this site, ensure that you are in the Plugins section of this site and use the search tool. You should only need to enter a few keywords of the plugin's name to find it.

**Troubleshooting**

**Problem Loading the Plugin Repository with IE7**

There is a problem using the Plugin Repository with Internet Explorer 7. You may see an error message saying 'Object error'. In this case, the browser will just hang until you close the browser window or tab.

This problem is caused by a bug in IE7, which Microsoft have fixed in Windows Service Pack 3. Details are on our JIRA site at CONF-10837.

There are some workarounds for those who cannot install the Microsoft Service Pack. You can use a different browser instead of IE7, such as Firefox. Or you can upload the plugin jar into Confluence manually, via the 'Plugins' option in the Administration Console. See Installing and Configuring Plugins Manually.

**RELATED TOPICS**

Confluence Plugin Guide

**Plugin loading strategies in Confluence**

**The categories**

Confluence plugins have different behaviour based on how they are loaded by Confluence. The plugins themselves are the same, but based on how they are loaded, they may or may not be upgraded, or may not be disabled, or may not be uninstalled. This chart should explain how plugins can be loaded by Confluence, and the ramifications for each choice.

The category any particular plugin is in can vary with Confluence version or circumstance. The examples mentioned here describe the way particular plugins are loaded by default in Confluence 2.8.

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static</td>
<td>cannot be installed or upgraded without a Confluence restart</td>
<td>Admin Sections</td>
</tr>
<tr>
<td>Core</td>
<td>Included with Confluence and cannot be uninstalled. The classes and plugin.xml are not bundled into plugin jars, but mixed in with Confluence source on the main classpath. Additionally, the plugin.xml definitions are not called &quot;atlassian-plugin.xml&quot; as they are everywhere else, but are named for the plugin e.g., &quot;basic-macros.xml&quot;. We would like to separate some of them out and turn them into Bundled plugins.</td>
<td></td>
</tr>
<tr>
<td>WEB-INF/lib</td>
<td>Confluence also places some plugin jars inside WEB-INF/lib. They are inserted during the build process by Maven. These plugins, likewise, cannot be uninstalled. In ancient times, this was the only way to install plugins, so users are also free to install plugins here. We try to discourage them from doing so, however. As of version 3.0, most of the JAR files in this directory are library dependencies, not plugins.</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>the opposite of static, these can be installed/upgraded while Confluence is running</td>
<td></td>
</tr>
</tbody>
</table>
Bundled plugins can be administered from the Plugins console from Administration >> Plugins. You can upload or disable them there.

**Bundled** plugins are included in a zip of jars called `atlassian-bundled-plugins.zip` which is on the main Confluence classpath, in a resources directory - `<confluence-install>/confluence/WEB-INF/classes/com/atlassian/confluence/setup`. At Confluence startup, they are extracted and copied into the `SCONFLUENCE_HOME/bundled-plugins` directory, from whence they are loaded. To remove a bundled plugin (you shouldn't normally have to do this), remove the plugin from the atlassian-bundled-plugins.zip file and the bundled-plugins directory, otherwise Confluence will just put it back in place on the next startup. In versions later than 2.6, you'll have to recreate the jar file (if the jar file is from the lib folder) or recreate the zip folder(if its in the classes folder). Bundled plugins can be upgraded or disabled.

Uploaded plugins are included in a zip of jars called `atlassian-uploaded-plugins.zip` which is on the main Confluence classpath, in a resources directory - `<confluence-install>/confluence/WEB-INF/classes/com/atlassian/confluence/setup`. At Confluence startup, they are extracted and copied into the `SCONFLUENCE_HOME/plugins-cache` folder on each Confluence node. These plugins are installed by the user via the plugin repository or the Plugin Manager page. These plugins are stored in the database and then copied to the `SCONFLUENCE_HOME/plugins-cache` folder on each Confluence node.

To summarise the relationships of categories in the table, all plugins are either Static or Dynamic. Static plugins can be further categorised into Core or WEB-INF/lib. Dynamic plugins are divided into Bundled and Uploaded.

**Use of the categories in Confluence**

Within Confluence, the Core and WEB-INF/lib categories are not actually named as such, and they don't map neatly to other names (though they do map, as will be explained). They are used here because of the logical distinction they provide.

In Confluence, some of the Core plugins are called "System". Plugins can be designated as "System" by adding a flag to the plugin manifest file. To do this, `system=true` should be added to the top-level `atlassian-plugin` element of the manifest file. The manifest file is generally called `atlassian-plugin.xml`, but it could have another name; the Core plugins' files do.

All of the Core plugins once were labeled as "System", but it seems the practice has faded over time. If a plugin is designated as "System", then it will not show up in the Plugin Manager page in Confluence and thus cannot be enabled/disabled. However, it will show up in the Plugin Repository Client, where it can be disabled; allowing disabling there is probably incorrect behavior.

Static plugins that are not marked as "System" (any remaining Core and WEB-INF/lib plugins), are simply called Static in Confluence. There is no way to tell the WEB-INF/lib and Core plugins apart from within Confluence. You just have to figure out where the classes are.

Members of the other specific categories - Bundled and Uploaded - can be determined. We can tell which plugins are Bundled and which plugins are Uploaded, so we know which plugins are Uploaded though this specific term is never used in the Confluence UI. Instead, they are called Dynamic.

**Upgrading plugins**

- Core plugins cannot be upgraded.
- WEB-INF/lib plugins can be upgraded by replacing the JAR in WEB-INF/lib and restarting Confluence.
- Bundled plugins can be upgraded using the Plugin Manager or the Plugin Repository Client. A new plugin jar is uploaded and stored as a Uploaded plugin. Confluence compares the version number with the Bundled plugin and uses the newer.
- Uploaded plugins are upgradable using the Plugin Manager or the Plugin Repository Client. When a new plugin jar is uploaded, the previous version is discarded from the database and the `SCONFLUENCE_HOME/plugin-cache`

**RELATED TOPICS**

Removing Malfunctioning Plugins

**Removing Malfunctioning Plugins**

Confluence goes to some lengths to prevent itself being unusable due to a problematic plugin. However, sometimes a plugin will manage to do this anyway.

**Plugin Loading Strategies**

1. Read through Plugin loading strategies in Confluence.
2. Determine where your plugin is loaded. The usual options are:
   a. The PLUGINDATA table on the database
   b. The `<confluence-home>/bundled-plugins` folder
   c. The `<confluence-home>/plugin-cache` folder
   d. The `<confluence-home>/plugins-osgi-cache` folder
   e. The `<confluence-home>/plugins-temp` folder
   f. The `<confluence-install>/confluence/WEB-INF/lib` folder (deprecated approach)

Check these locations when troubleshooting plugin loading issues.
Deleting a plugin from the Database

To remove a plugin from Confluence when Confluence is not running:

1. Connect to the Confluence database.
2. Run the following SQL statement in your database:
   
   ```
   select plugindataid, pluginkey, filename, lastmoddate from plugindata;
   ```

3. After you have found the plugindataid for the offending plugin, please run the following:
   
   ```
   delete from plugindata where plugindataid='XXXXXX';
   ```

   where XXXXXX is the plugindataid value.
4. Restart Confluence.

Deleting a Bundled Plugin

Bundled plugins can be administered from the Plugins console from Administration >> Plugins. You can upload or disable them there.

Bundled plugins are included in a zip of jars called `atlassian-bundled-plugins.zip` which is on the main Confluence classpath, in a resources directory `- <confluence-install>/confluence/WEB-INF/classes/com/atlassian/confluence/setup`. At Confluence startup, they are extracted and copied into the `$CONFLUENCE_HOME/bundled-plugins` directory, from whence they are loaded. To remove a bundled plugin (you shouldn't normally have to do this), remove the plugin from the atlassian-bundled-plugins.zip file and the bundled-plugins directory, otherwise Confluence will just put it back in place on the next startup. In versions later than 2.6, you'll have to recreate the .jar file (if the jar file is from the lib folder) or recreate the zip folder (if its in the classes folder). Bundled plugins can be upgraded or disabled.

If you need to remove a bundled plugin, check to see if you have duplicates in the `<confluence-home>/bundled-plugins` or `<confluence-home>/plugin-cache` directory.

Usually, the problem is that an old plugin is getting loaded along with the properly bundled one, but if you need to remove a bundled plugin, check Plugin loading strategies in Confluence.

Enabling and Configuring Macros

Macros allow you to perform programmatic functions within a page, and can be used for generating more complex content structures.

Generally speaking, a macro is simply a command wrapped inside curly braces `{...}`. To learn how to write your own macro, or use macros written by other people, read the Confluence Plugin Guide.

**RELATED TOPICS:**

- Configuring a URL Whitelist
- Configuring the userlister Macro
- Editing and Removing macros
- Enabling HTML macros
  - Enabling the html-include Macro
- Troubleshooting the Gallery Macro

Configuring a URL Whitelist

The RSS and HTML-include macros are used to include content dynamically from other websites onto a Confluence page. The included content may possibly be malicious or harmful to your Confluence instance.

Confluence administrators can set up a list of trusted URLs, thus limiting the locations from which the RSS macro and the HTML-include macro can draw their content.

The form below allows you to define specific URLs and/or URL patterns which are trusted, or to allow inclusion from all URLs without restriction.
To configure the URL whitelist,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Configure Whitelist' in the left-hand panel.
3. The 'Configure Whitelist' screen will appear, as shown in the screenshot below.
4. Select one of the radio buttons as follows:
   - Allow all domains — There will be no restrictions to the content which can be included onto your Confluence pages.
   - Restrict to listed domains — Confluence will allow content from trusted URLs only. When you select this option, a textbox will open allowing you to enter specific URLs and/or URL patterns. Enter one or more URLs, each on its own line. You can enter the full URL, or use the pattern matching rules described below.
5. Click 'Save'.

Screenshot: Configuring a URL whitelist

The [html-include] and [rss] macros can be used to include content dynamically from other websites onto a Confluence page. For security reasons, administrators may wish to limit the URLs from which users can include content. Select 'Restrict to listed domains' and use the form below to list specific URLs or URL patterns that will be allowed. If you select 'Allow all domains', content can be included from any URL, including possibly malicious content.

Enable Whitelist

- Allow all domains
- Restrict to listed domains

Whitelist Rules

http://*:atlassian.com

URL Pattern-Matching Rules

Enter one URL or URL pattern per line. You can enter a full URL or use pattern-matching as described below:

- If the rule starts with an equals sign (=), only the exact URL following the '=' will be allowed.
- If the rule starts with a slash (/) then the whole rule will be treated as a regular expression.
- Otherwise, any asterisk (*) will be treated as a wildcard to match one or more characters.

What Happens to a Page Containing a Disallowed URL?

A user can add the RSS macro or the HTML-include macro to a Confluence page. The macro code includes a URL from which the content is drawn. When the page is displayed, Confluence will check the URL against the whitelist. If the URL is not allowed, Confluence will display an error message on the page.

The error message says that Confluence "could not access the content at the URL because it is not from an allowed source" and displays the offending URL. If the person viewing the page is a Confluence Administrator, they will also see a link to the Administration page where they can configure the URL whitelist.

Here is an example of the error message, including the link shown only to Confluence Administrators:
Here is an example of the error message, but without the link.

Could not access the content at the URL because it is not from an allowed source.
http://feathers.wordpress.com

You may contact your site administrator and request that this URL be added to the list of allowed sources.

Notes

Some things to be aware of:

- By default, the RSS and HTML-include macros are disabled in Confluence. A System Administrator can enable them on the 'Plugins' screen of the Confluence Administration Console.
- A user who has the 'Confluence Administrator' permission, but not necessarily the 'System Administrator' permission, can configure the URL whitelist (for the HTML-include and RSS macros).

RELATED TOPICS

Enabling HTML macros
RSS Feed Macro
HTML Include Macro

Configuring the userlister Macro

The `userlister` macro has an optional 'online' parameter. If the 'User Listener' plugin is configured to allow this feature, then the page author can specify `online=true` to show a list of all online users.

You need to have System Administrator permissions in order to perform this function.

To enable the 'online' filter in the userlister macro,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Plugins' in the left-hand panel. This will list the currently installed plugins.
3. Scroll down and click the 'User Listener' link. The User Listener plugin panel will appear at the top of the screen.
4. Enable the 'User Log In Listener' module by clicking the 'Enable' link on its right.
5. Restart Confluence.

List of online users can be misleading

When the parameter 'online=true' is used, Confluence uses a context listener to generate the list of online users. A context listener is a J2EE term for something that listens for events in the application server. We listen for session open and close events, so a user is 'online' if they have a session on the application server. Some application servers don't correctly despatch close events for sessions – in these cases, the list of online users may be misleading.

Screenshot: Enabling the User Log In Listener
RELATED TOPICS
Userlister Macro
Enabling and Configuring Macros

Editing and Removing macros

You need to have System Administrator permissions in order to perform this function.

To edit or remove a user macro,

1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
2. Select ‘User Macros’ in the left-hand panel. This will list the currently configured user macros with options to ‘Edit’ or ‘Remove’ each macro.
   - Click ‘Edit’. This will display the edit screen for the macro. Make changes in the ‘template’ input field and click ‘Save’.
   - Templates are in HTML, not wiki markup.
   - Click ‘Remove’ to delete the macro.

RELATED TOPICS
Writing Macros
Editing and Removing macros
User Macros
Enabling the html-include Macro
Enabling HTML macros
Include Page Macro

Enabling HTML macros

The {html} macro allows you to use HTML code within a Confluence page.

The {html-include} macro allows you to include the contents of an HTML file in a Confluence page.

CAUTION: Including unknown HTML inside a webpage is dangerous. Because HTML can contain active scripting components, it would be possible for a malicious attacker to present a user of your site with script that their web browser would believe came from you. Such code could be used, for example, to steal a user's authentication cookie and give the attacker their Confluence login password.

By default, the HTML macros are disabled. You should only turn on these macros if you trust all your users not to attempt to exploit them.
You need to have System Administrator permissions in order to perform this function.

To enable the HTML macros,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Plugins' in the left-hand panel. This will display the installed plugins active for this Confluence installation.
3. Click 'HTML macros', then click 'Enable Plugin'

RELATED TOPICS

Writing Macros
Editing and Removing macros
User Macros
Enabling the html-include Macro
Enabling HTML macros
Include Page Macro

Enabling the html-include Macro

The {html-include} macro allows you to include the content of an HTML file in a Confluence page. This page tells you how to enable the macro, so that it is available on your Confluence site. For help on using the macro, see HTML Include Macro.

CAUTION: Including unknown HTML inside a web page is dangerous. Because HTML can contain active scripting components, it would be possible for a malicious attacker to present a user of your site with script that their web browser would believe came from you. Such code could be used, for example, to steal a user's authentication cookie and give the attacker their Confluence login password.

Enabling the HTML Macros

By default, the HTML macros are disabled. You should only turn on these macros if you trust all your users not to attempt to exploit them.

You need to have System Administrator permissions in order to perform this function.

To enable the HTML macros,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Plugins' in the left-hand panel. This will display the installed plugins active for this Confluence installation.
3. Click 'HTML macros', then click 'Enable Plugin'.

RELATED TOPICS

HTML Include Macro
Writing Macros
Editing and Removing macros
User Macros
Enabling the html-include Macro
Enabling HTML macros
Include Page Macro
Troubleshooting the Gallery Macro

The full list of parameters is shown in the following table.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallery Title (title)</td>
<td>Nothing</td>
<td>Specify a title for your gallery.</td>
</tr>
<tr>
<td>Number of Columns (columns)</td>
<td>4</td>
<td>Specify the number of columns for your table.</td>
</tr>
<tr>
<td>Images to Exclude (exclude)</td>
<td>No exclusions i.e. include all the pictures on the page.</td>
<td></td>
</tr>
<tr>
<td>Include these Images Only (include)</td>
<td>Include all the pictures on the page.</td>
<td></td>
</tr>
<tr>
<td>Use Images in these Pages (page)</td>
<td>If no page is specified, the gallery displays the images attached to the page containing the macro.</td>
<td></td>
</tr>
<tr>
<td>Reverse Sort (reverseSort)</td>
<td>Nothing, i.e. sort order is ascending</td>
<td></td>
</tr>
<tr>
<td>Sort Images By (sort)</td>
<td>None i.e. the sort order is unspecified and therefore unpredictable.</td>
<td></td>
</tr>
</tbody>
</table>

The gallery will ignore any pictures specified by exclude=picture file name i.e. they will not be included in the gallery. You can specify more than one picture, separated by commas. Example: exclude=my picture.png,my picture2.gif

If you specifically include one or more pictures, the gallery will show only those pictures. Format is include=picture file name. You can specify more than one picture, separated by commas. Example: include=my picture.png,my picture2.gif

If no page is specified, the gallery displays the images attached to the page containing the macro. Specify the title of the page which contains the images you want displayed. If the page is in the same space as the page containing the macro, use the format page=My Page Name. To specify a page in a different space, use page=SPACEKEY:My Page Name, such as page=DOC:Gallery Macro

Used in conjunction with 'sort' parameter above. Use 'reverseSort' to reverse the sort order, from ascending to descending.

Specify an attribute to sort the images by that attribute. Sort order is ascending, unless you specify the 'reverseSort' parameter (see below). Options are:

- 'name' – file name.
- 'comment' – comment linked to the attached file.
- 'date' – date/time last modified.
- 'size' – size of the attached file.

If the actual name of an attachment file or page contains a comma, you can refer to it in the exclude, include, or page parameters above by enclosing it in single or double quotes, for example "this,that.jpg", theother.png

For more information, refer to Gallery Macro.

Troubleshooting

If you encounter the following error message: System does not support thumbnails: no JDK image support then ensure that you have following system property available for your JVM:

```
JAVA_OPTS=-Djava.awt.headless=true
```

Also see CONF-1737

Please note that gallery-ext.jar is available at CONF-6620

Operating Large or Mission-Critical Confluence Installations

This page gives guidelines for operational management teams who are responsible for a large Confluence installation, or for a Confluence installation which is crucial to the business of their organisation.

On this page:
Introduction to this Page

Motivation for Presenting these Guidelines

Most Confluence installations start off small. Ten people in an early-adoption department use it for a couple of weeks. Everything works well and the good news starts spreading. Adoption increases throughout the organisation. More and more people use the wiki, and more and more rely on Confluence being up and running. After a while even the CEO starts blogging. And then a system outage occurs.

Now what?

Wikis like Confluence often grow into mission-critical applications within just a few months. Often adoption is so fast that IT departments haven't had the time to scale up their support.

We have assembled some requirements to help you make sure that your installation of Confluence can be mission critical. There are no surprises to be found here — all of the requirements would apply to any other piece of software that is mission critical within your organisation.

Who should Read these Guidelines?

The guidelines do not apply to you if you are using Confluence with just a few dozen users, and no one really minds if Confluence is down for a couple of hours because your database has crashed.

But if any one of the following applies to you, then these guidelines are a must read for you!

- The wiki has become your organisation's documentation base.
- Your users can't work properly when Confluence is down.
- Your boss or customer threatens to terminate your contract if you don't meet a strict service level agreement (SLA), such as 99.9% availability.

Requirements of Large or Mission-Critical Confluence Installations

Dedicated Hardware for Confluence

In a small work group with a few dozen or even hundreds of users, your Confluence installation can happily share the CPUs, memory and disks with other low-profile applications and a database.

But with thousands or even tens of thousands of users, you need dedicated hardware that runs Confluence and nothing else, and it needs to be fast hardware with plenty of RAM. While you can run Confluence in a virtualised environment such as VMware, we suggest you don't do it for mission-critical or high-load installations unless you are a real expert in virtualisation. Otherwise your other VMs might have performance problems which propagate to Confluence.

If you experience database-related problems, you should consider moving the Confluence database to a dedicated machine. Confluence itself can run queries that impact the performance of other applications, and other application problems or scheduled tasks can have an adverse affect on the usability of Confluence.

Dedicated Qualified Staff

If your Confluence installation is mission critical and your service level agreements require 24/7 up time, you need to be able to pinpoint problems quickly. You need qualified staff, dedicated to looking after Confluence, who are available during business hours and possibly beyond.

If you require assistance from the Atlassian Support team, you may need to answer some pretty technical questions to help us diagnose what is going on in your systems. Also keep in mind that Atlassian support assists you in finding problems in Confluence, but we can't help you administer your systems.
In particular, we recommend that you have dedicated staff in the roles listed below.

**Operations Team with General Administrators**

If your organisation relies on Confluence being up and running around the clock with very little downtime, you need people who can set up, maintain, tune and improve your Confluence installation. This requires at least one person, but ideally you will have a team of operational engineers.

If your wiki is mission critical, chances are that other IT systems within your organisation have already made it necessary to have such an operations team. So you will probably not need to hire someone specifically to administrate Confluence. But it is vital that supporting and maintaining Confluence is added to the list of responsibilities of that operations teams, and that you can get them to troubleshoot and analyse Confluence at short notice.

If problems arise and you need to contact Atlassian Support, these engineers will be our first point of contact. We may ask them to provide details of log files, application-server settings, monitoring systems, and so on.

**Network Staff**

If Confluence is mission critical for large numbers of users, it is vital that you have dedicated network staff available to track down problems when they arise.

A mission-critical installation will usually be used by hundreds or even thousands of users, and you don't want to keep them waiting because a network card breaks, or because someone has made an undocumented change to the network and you don't have an expert around who can figure it out.

Again, this only applies to mission-critical systems. If you use Confluence for less critical collaboration and knowledge sharing, and a broken network cable causing a day's downtime is no major catastrophe, then you will not need dedicated networking staff.

**Database Staff**

If Confluence is mission critical for a large number of users, you need an experienced database administrator (DBA) available to troubleshoot database performance issues and other potential problems. It is dangerous not to have an experienced full-time DBA at hand at short notice when running a mission critical application. While small installations of Confluence basically work 'out of the box', any system that involves high load or high-availability requirements needs continual monitoring, optimising and fine tuning of the Confluence database. Database monitoring is no trivial task — it's something that anyone can learn quickly.

**Developers**

You may have decided to customise Confluence by changing its source-code, or by writing your own plugins. If your server is mission-critical, you must nominate staff who will be responsible for that code, and they must be up for the task. Otherwise you might end up in a situation in which your server experiences downtimes because of custom code is broken, or does not work with a newer version of Confluence anymore, but you can't fix the problem because no one knows how the customized code works, and you can't uninstall it either because it has become critical for your Confluence usage pattern. Keep good track of changes, and have someone available to jump into action if there is a problem. Don't let the summer intern write mission-critical plugins, unless you have more senior staff to maintain that code as long as it is in use.

**Constant Monitoring of Production Systems**

You will need to monitor your production systems constantly.

When the wiki is the lifeblood of your organisation, you need know exactly what is going on inside, so that you can plan for future needs and analyse potential bottlenecks.

Monitoring involves a number of essential tasks, including those listed below:

- Monitoring log files.
- Checking for HTTP-availability and performance (e.g. by getting the same page every five minutes and displaying the time on a graph).
- Looking at many different parameters such as load, connections, IO, database-trends, and so on.
- Charting long-term trends.
- Keeping an access log of requests to the web server. This is vital, especially when requesting performance-related support from Atlassian.

Monitoring a web application like Confluence implies also monitoring the subsystems it uses. Many outages and downtimes are caused by broken mail servers, databases running out of space, file systems filling up and so on. It is often possible to detect these trends way before the actual web application breaks down. Keep an eye on the file system, and if you see it is getting closer to 90% utilisation, you can mend the situation without Confluence breaking down. Or even if the worst case happens (e.g. the database breaks down and Confluence is affected straight away) then having the proper monitoring for the database server makes troubleshooting a lot easier.

**Tools for Monitoring Confluence**

At Atlassian we use Hyperic. But the list of monitoring systems is long and we can't recommend a specific product over the other. If your organisation has a monitoring system already, make sure you hook up Confluence to it. If you don't have a monitoring system yet, you need to install one as soon as you feel Confluence is mission critical.

As an example of what our monitoring UI looks like, have a look at this screenshot:
The following screenshot shows one of our sensors looking at the HTTP response times of our documentation wiki over the last 8 days. You can clearly see an incident four days ago. Having the graph (and regularly looking at it) allowed us to pinpoint the problem. We analysed the access logs and found that webpage-profiling had been enabled but not disabled again, which caused performance problems.
This page would get too long if we described all our monitoring sensors - but just to give you an impression, this is what we monitor on the JVM level alone.

**JVM basics**
- Current Loaded Classes
- Daemon Thread Count
- Heap Memory Committed
- Heap Memory Max
- Heap Memory Used
- Loaded Classes
- Loaded Classes per Minute
- Object Pending Finalization Count
- Peak Thread Count
- Thread Count
- Unloaded Classes
- Unloaded Classes per Minute

**JVM garbage collection**
- Collection Count
- Collection Count per Minute
- Collection Time
- Collection Time per Minute

**JVM memory: (Metrics for Eden space, Old Gen, Survivor space, Perm Gen)**
- Committed Memory
- Used Memory

We get the same level of detail for our database, for the file system, for the CPU, for the network, and so on. Not all of this is needed all the time. But if your company depends on an application, then the more information you have at your fingertips the better. Fortunately these metrics can be extracted quite easily once you have a monitoring system in place.

**Adherence to Strict Upgrade Procedures**

Your organisation will have its own upgrading procedure. Here are a few recommendations that you should add to your list:

- Our main recommendation: Never change more than one component at a time. Sometimes it may be tempting to upgrade the server hardware when you upgrade Confluence, but we recommend you don't do that. It makes pinpointing errors much more difficult. So, for example, don't upgrade hard disks in conjunction with a Confluence version upgrade, don't change the Confluence configuration at the same time as you upgrade your Apache software, and don't upgrade a major third-party plugin the day you move your database system to a new machine. The list is endless, these were just a few examples to get you thinking.
- After each upgrade step, run Confluence for a couple of days to check that everything is still fine.
- Keep track diligently of what you change, and when. It will be nearly impossible for us to help you if you can't tell us what exactly you changed at what time.
- Keep a copy of all log files produced during the upgrade, together with notes about what changed between successive restarts.

Always take careful note of the upgrade notes published with the [Release Notes](#) of each Confluence version, as well as the [Confluence Upgrade Guide](#).

**Example**

Here you can see an extract of our change log for [http://confluence.atlassian.com](http://confluence.atlassian.com) — the server that hosts this very page.

<table>
<thead>
<tr>
<th>Sydney time</th>
<th>Server time</th>
<th>Event</th>
<th>Reason/Purpose (including JIRA issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-03-25 22:18</td>
<td></td>
<td>Started upgrade to 2.8-m9-r3 (build #1314)</td>
<td></td>
</tr>
<tr>
<td>2008-03-25 22:25</td>
<td></td>
<td>App server brought down due to failed database upgrade</td>
<td></td>
</tr>
<tr>
<td>2008-03-26 00:51</td>
<td></td>
<td>Server brought back up after database restored from backup. Running 2.8-m9-r3.</td>
<td></td>
</tr>
<tr>
<td>2008-03-28 04:18</td>
<td></td>
<td>GC algorithm changed from concurrent to parallel collector. Max heap increased from 1.4 GB to 2.0 GB</td>
<td></td>
</tr>
<tr>
<td>2008-04-24</td>
<td></td>
<td>Hyperic agent started with connection to Resin.</td>
<td></td>
</tr>
</tbody>
</table>
Testing of Upgrades before Production Implementation

You should test upgrades in a staging environment.

Before rolling out a new version of Confluence (or of the software or hardware that it uses, e.g. database systems, application servers, data storage), make sure that you test the upgrade with real data (e.g. a database dump) on a completely independent machine.

Here's an example of what such a test would pick up: The new release of Confluence may not be compatible with a custom third party plugin you have previously installed, thus breaking the plugin's functionality. You may not even know that anyone installed that plugin — but maybe many people are already using it. You'll want to find out about this before you actually roll out the new version of Confluence.

Here is an outline for a simple upgrade test:

1. Create a clone of your production environment, using a database dump to obtain a copy of the Confluence data. We'll call this your 'staging environment'.
2. Upgrade the staging environment to the new version of Confluence.
3. Ask a few selected users from different departments to check the pages they commonly access, but have them do it in the staging environment.

Hint: In addition to finding weirdnesses with plugins, this may also show whether training for new functionality is needed in some of the departments. The IT department staff may be able to handle the upgrade to a new version of Confluence without training, but perhaps the sales representatives who use the wiki less often will need some training.

Getting a license for your staging environment

Only a technical contact for your commercial/academic license is able to create a Developer license

Atlassian supplies ‘developer’ licenses which can be used by existing commercial license holders who wish to deploy non-production installations of our software to use in QA/staging environments. Developer licenses are free of charge to commercial license holders and, like our commercial offerings, they include 12 months of updates starting from the date of purchase of the commercial license.

If you hold a commercial license, you can obtain a free developer license by performing the following:

1. Log in to your Atlassian account.
2. Under the "Licenses" heading, all of your licenses will be displayed. Click the plus sign next to a license to view its details.
3. Click the 'View Developer License' link in the bottom right corner of the license detail panel, below your commercial license key.

Load-Testing Environments

Many customers ask us,

| So, how many users and spaces can I put into Confluence, and what is the best hardware to do so? |

The answer is, 'It depends'.

It depends a lot on your use case. Confluence is so successful because it can cover a huge range of use cases. If most of your users only access Confluence infrequently, it is no problem to have 70 000 to 100 000 users. But if each user is a power-user who uses the system the whole day, there's a substantial decrease in number Confluence can take without tuning. If your pages are short, simple, and don't contain a lot of macros, then the situation will be vastly different from a system that relies heavily on macros, background-tasks, or other features.

If your system is large (for example serving more than 10 000 users or storing more than 1000 spaces) or mission-critical (which it could be with as few as 1000 users who use it all the time) you need one or more more load-testing environments.

Even if your system is working nicely for 20 000 users right now, it might take just another 2000 users to push it over the edge.
We recommend the following basic procedure:

- Set up an environment that closely resembles your production environment.
- Gather statistics from your production system.
- Regularly apply a similar kind of load (and slightly higher) to the load-testing environment.
- Analyse how well Confluence scales for your usage patterns.

The Confluence development team has load-testing scripts available which you can use to simulate load. You can also contact Atlassian Support for more details.

**Tuning**

You may need to be able to tune your installation in the ways mentioned below.

**Optimising your System**

If you have large numbers of users, then downloading all the static content (CSS, default images, JavaScript-files) may result in a high additional load on the application server that can be offloaded to a caching web server.

Please refer to the following additional information:

- Our general Performance Tuning page.
- Information on configuring a large Confluence installation.

**Limiting Third-Party Plugins**

You may have to restrict the number of third-party plugins installed on your Confluence instance.

Most third-party plugins are not specifically written for high-load environments. What works fine in low-load environments could have unexpected and adverse effects when thousands of users are competing for your application server's CPU time or for database IO.

A common source of problems is access to database connections. If you have fewer users than database connections, it does not matter if an operation holds on to a database connection for two seconds while it downloads some data from the internet. With hundreds of concurrent users, this could quickly become a bottleneck.

Confluence itself is tested and optimised to handle high loads and avoids these kinds of problems. But if you install a number of plugins that have not been tested against high load, your system may become unstable.

We recommend that you load test the common use cases of each unofficial third-party plugin if your Confluence installation is mission critical. Only activate plugins that are vital to your business, and never allow experimental plugins onto your production system until they have been tested in a staging environment.

**Selecting and Tuning your JVM**

You should select your JVM carefully and you may need to be able to tune it.

The selection of the JVM for your large Confluence instance can have a huge impact on the performance perceived by the users. Between versions 1.4 and 6 of the Sun Java JVM there have been some impressive improvements in performance, especially under high concurrent load.

Here are some essential guidelines:

- Always run the most recent point release of your selected JVM.
- Where ever possible run the most recent major release from your selected JVM manufacturer. The Sun JVM version 6 is much faster than 1.4, especially under high loads.
- Tune your garbage collection algorithms. Experiment with different algorithms and settings to get the response times you desire in your environment. Here are some specific guidelines for Sun JVM in the Sun documentation:
  - Java 6
  - Java 5
  - Java 1.4

**Customising Confluence to Optimise Performance**

You may need to customise Confluence for performance reasons. Depending on your usage scenario, there may be ways to enhance Confluence performance that become necessary when you reach a certain level of usage.

Here are some things you might decide to do:

- Remove the display of the space list on the Dashboard.
- Disabling permission-checking on links.
- Configure any search appliances or other crawlers which are configured to index the Confluence site:
  - These should be suitably rate limited.
  - Configure them to crawl only pages in the /display/ URL path, and only current versions of pages.

Please refer to our general Performance Tuning page for more details.

**RELATED TOPICS**
Performance Tuning

This document describes tuning your application for improved performance. It is not a guide for troubleshooting Confluence outages. Check Troubleshooting Confluence Hanging or Crashing for help if Confluence is crashing. NEW: Garbage Collector Performance Issues

Description

Like any server application, Confluence may require some tuning as it is put under heavier use. We do our best to make sure Confluence performs well under a wide variety of circumstances, but there's no single configuration that is best for everyone's environment and usage patterns.

If you are having problems with the performance of Confluence and need our help resolving them, you should read Requesting Performance Support.

Use the latest version of your tools

Use the latest versions of your application servers and Java runtime environments. Newer versions are usually better optimized for performance. As an example, our internal performance tests show a 20% speed-up (when viewing pages under load) between Tomcat 6 on Java 6 vs Tomcat 5.5 on Java 5.

Avoid swapping due to not enough RAM

Always watch the swapping activity of your server. If there is not enough RAM available, your server may start swapping out some of Confluence's heap data to your hard disk. This will slow down the JVM's garbage collection considerably and affect Confluence's performance. In clustered installations, swapping can lead to a Cluster Panic due to Performance Problems. This is because swapping causes the JVM to pause during Garbage Collection, which in turn can break the inter-node communication required to keep the clustered nodes in sync.

Choice of Database

The embedded database that is provided with Confluence is meant only to be used for evaluation, not for production Confluence sites. After the evaluation finishes, you will certainly need to switch to an external relational database management system. Beyond this, we do not recommend any particular RDBMS over another. We recommend using what you are familiar with, because your ability to maintain the database will probably make far more difference to what you get out of it than the choice of database itself.

Database Connection Pool

If load on Confluence is high, you may need more simultaneous connections to the database.

- If you are using JNDI data-sources, you will do this in your application server's configuration files.
- If you have configured Confluence to access the database directly, you will need to manually edit the hibernate.c3p0.max_size property in the confluence.cfg.xml file in your confluence.home directory. After you have changed the URL in this file, restart Confluence.

To assess whether you need to tune your database connection pool, take thread dumps during different times (including peak usage). Inspect how many threads have concurrent database connections.

Database Indexes

If Confluence is running slowly, one of the most likely cause is that there is some kind of bottleneck in the database.

Especially if you have more than a few thousand active users, you should consider enaging a database administrator (DBA) to tune the database specifically to the demands that your particular Confluence installation is placing on it. If you do not have a full-time DBA and can't even get one for temporary consulting, you may want to consult the database indexing advice that we have been gathering from customer reports and our own experience running and developing Confluence. The instructions on that page are for Oracle, but most of the indexes can be applied to (and will help with) any database.

(These database indexes are now created automatically when Confluence is installed, but existing installations upgrading to a more recent version may still need to add them manually)
Cache Tuning

To reduce the load on the database, and speed up many operations, Confluence keeps its own cache of data. Tuning the size of this cache may speed up Confluence (if the caches are too small), or reduce memory (if the caches are too big). Future versions of Confluence will allow you to tune the size of this cache from within the web application. Vote for tuning the cache from the UI and getting cache recommendations to encourage Atlassian to build this feature into a Confluence release.

Please have a look at our documentation on Cache Performance Tuning for information on how to tune Confluence caches.

Antivirus Software

Antivirus software greatly decreases the performance of Confluence. Antivirus software that intercepts access to the hard disk is particularly detrimental, and may even cause errors with Confluence. You should configure your antivirus software to ignore the Confluence home directory, its index directory and any database-related directories.

Enabling HTTP Compression

If bandwidth is responsible for bottlenecks in your Confluence installation, you should consider enabling HTTP compression. This may also be useful when running an external facing instance to reduce your bandwidth costs. Note the known issues with HTTP compression in versions of Confluence prior to 2.8, which may result in high memory consumption.

Virtual Operating Systems

Virtual Environments such as VMWare can cause Confluence CPU to spike. Run Confluence on a native OS. See our List Of Supported Operating Systems.

Performance Testing

You should try out all configuration changes on a demo system. Ideally, you should run and customize loadtests that simulate user behaviour. Learn about how to test performance issues using the Performance Testing Scripts.

Access logs

You can find out which pages are slow and which users are accessing them by enabling Confluence's built-in access logging.

Built-in Profiler

You can identify the cause of page delays using Confluence's built-in profiler according to Troubleshooting Slow Performance Using Page Request Profiling.

Adjust Application Server Memory Settings

See Managing Application Server Memory Settings.

Use A Web Server

For high-load environments, performance can be improved by using a web server such as Apache in front of the application server. There is a configuration guide to Running Confluence behind Apache.

When configuring your new web server, make sure you configure sufficient threads/processes to handle the load. This applies to both the web server and the application server connector, which are typically configured separately. If possible, you should enable connection pooling in your web server connections to the application server.

Parallel GC

If you have multiple CPU's on your server, you can add -XX:+UseParallelOldGC to your JAVA_OPTS options. This will allow garbage collection of the Tenured Space to happen in parallel with the application and can boost performance and can reduce slow performance spikes. For more information, please refer to our detailed page on Garbage Collector Performance Issues, and Sun's summary of collectors.

Troubleshoot possible memory leaks

Some external plugins, usually ones that have been written a long time ago and that are not actively maintained anymore, have been reported to consume memory and never return it. Ultimately this can lead to a crash, but first this manifests as reduced performance. The Troubleshooting Confluence Hanging or Crashing guide is a good place to start. Some of the known causes listed there could result in performance issues short of a crash or hang.

Some 3rd-party plugins were not written to scale to large enterprises' needs

Confluence has been optimized to work under high load and with many pages. Some 3rd party plugins however have been written with small
size companies in mind, and can't cope with large numbers of concurrent users, or large numbers of pages and permissions, or large numbers of spaces. It is impossible to tell which ones will fail under which conditions, but it will always help to turn off 3rd-party plugins that are not strictly mission-critical while investigating performance issues.

RELATED TOPICS
Garbage Collector Performance Issues
Cache Performance Tuning
Cache Performance Tuning for Specific Problems
Performance Testing Scripts
Working with Confluence Logs
Operating Large or Mission-Critical Confluence Installations
Confluence Clustering Overview
Requesting Performance Support
Administrators Guide
Configuration Guide

Garbage Collector Performance Issues

This document relates broadly to memory management with Sun's Hotspot JVM. These are recommendations based on Support's successful experiences with customers and their large Confluence instances.

Summary

- Set the Eden space up to 30-50% of the overall heap: `-XX:NewSize=<up to half of your Xmx value>`
- Use a parallel collector: `-XX:+UseParallelOldGC` (make sure this is Old GC)
- set the minimum and maximum Xmx and Xms values as the same (eg. `-Xms1024m -Xmx1024m`)
- Turn on GC logging (add the flags `-verbose:gc -Xloggc:<full-path-to-log> -XX:+PrintGCTimeStamps -XX:+PrintGCDetails`) and submit the logs in a support ticket
- Use Java 1.6
- Read below if heap > 2G

See Configuring System Properties for how to add these properties to your environment.

Background

Performance problems in Confluence generally manifest themselves in either:

- frequent or infrequent periods of viciously sluggish responsiveness, which requires a manual restart, or, the application eventually and almost inexplicably recovers
- some event or action triggering a non-recoverable memory debt, which in turn envelops into an application-fatal death spiral (Eg. overhead GC collection limit reached, or Out-Of-Memory),
- generally consistent poor overall performance across all Confluence actions

There are a wealth of simple tips and tricks that can be applied to Confluence, that can have a significantly tangible benefit to the long-term stability, performance and responsiveness of the application.

On this page:

- Summary
- Background
- Why this happens
- Appreciate how Confluence and the JAVA JVM use memory
- Memory is contiguous
- Figure out which (default) collector implementation your vendor is using
- Use the Parallel Garbage Collector
- Virtual Machines are Evil
- Use Java 1.6
- Use --server flag
- If using 64bit JRE for larger heaps, use CompressedOops
- Use NUMA if on SPARC, Opteron or recent Intel (Nehalem or Tukwila onwards)
- Use 32bit JRE if Heap < 2G
- JVM coredumps can be instigated by memory pressures
- Instigate useful Monitoring techniques
- Tuning the frequency of full collections
- Performance Tuning works

Why this happens

Confluence is basically a gel. Multiple applications, data-types, social networks and business requirements can be efficiently amalgamated together, leading to more effective collaboration. The real beauty of Confluence, however, is it's agility to mold itself into your organizations' DNA - your existing business and cultural processes, rather than the other way around - your organization having to adapt to how the software product works.

The flip side of this flexibility is having many competing demands placed on Confluence by it's users. Historically, this is an extraordinarily
broad and deep set of functions, that really, practically can't be predicted for individual use cases.

The best mechanism to protect the installation is to place Confluence on a foundation where it is fundamentally more resilient and able to react and cope with competing user requirements.

**Appreciate how Confluence and the JAVA JVM use memory**

The java memory model is naive. Compared to a unix process, which has four intensive decades of development built into time-slicing, inter-process communication and intelligent deadlock avoidance, the JAVA thread model really only has 10 years at best under it's belt. As it is also an interpreted language, particular idiosyncrasies of the chosen platform Confluence is running can also influence how the JRE reacts. As a result it is sometimes necessary to tune the jvm parameters to give it a "hint" about how it should behave.

There are circumstances whereby the JAVA jvm will take the 'mediocre' option in respect to resource contention and allocation, and, 'struggle' along with oftentimes highly impractical goals. For example, The JRE will be quite happy to perform at 5 or 10% of optimum capacity if it means overall application stability and integrity can be ensured. This often translates into periods of extreme sluggishness, which effectively means that the application isn't stable, and isn't integral (as it cannot be accessed).

This is mainly because JAVA shouldn't make assumptions on what kind of runtime behavior an application needs, but, it's plain to see that the charter is to assume 'business-as-usual' for a wide range of scenarios and really only react in the case of 'dire' circumstances.

**Memory is contiguous**

The Java memory model requires that memory be allocated in a contiguous block. This is because the heap has a number of side data structures which are indexed by a scaled offset (ie n*512 bytes) from the start of the heap. For example, updates to references on objects within the heap are tracked in these "side" data structures.

Consider the differences between:

1. Xms (the allocated portion of memory)
2. Xmx (the reserved portion of memory)

Allocated memory is fully backed, memory mapped physical allocation to the application. That application now owns that segment of memory.

Reserved memory (the difference between Xms and Xmx) is memory which is reserved for use, but not physically mapped (or backed) by memory. This means that, for example, in the 4G address space of a 32bit system, the reserved memory segment can be used by other applications, but, because JAVA requires contiguous memory, if the reserved memory requested is occupied, the OS must swap that memory out of the reserved space either to another non-used segment, or, more painfully, it must swap to disk.

Permanent Generation memory is also contiguous. The net effect is even if the system has vast quantities of cumulative free memory, Confluence demands contiguous blocks, and consequently undesirable swapping may occur if segments of requested size do not exist. See [Causes of OutOfMemoryErrors](#) for more details.

Please be sure to position Confluence within a server environment that can successfully complete competing requirements (operating system, contiguous memory, other applications, swap, and Confluence itself).

**Figure out which (default) collector implementation your vendor is using**

Default JVM Vendor implementations are subtly different, but in production can differ enormously.

SUN by default splits the heap into three spaces

1. Eden (Nursery, or Scavenger)
2. Tenured (Old)
3. Permanent Generation (classes & library dependencies)

Objects are central to the operation of Confluence. When a request is received, the Java runtime will create new objects to fulfill the request in the Eden Space. If, after some time, those objects are still required, they may be moved to the Tenured (Old) space. But, typically, the overwhelming majority of objects created die young, within the Eden Space. These are objects like method local references within a while or overwhelming majority for loop, or Iterators for scanning through Collections or Sets.

But in IBM J9 the default policy is for a single, contiguous space - one large heap. The net effect is that for large Websphere environments, garbage collection can be terribly inefficient - and culpable to suffer outages during peak periods.

For larger instances with performance issues, it is recommended to tune Confluence such that there is a large Eden space, at up to 50% the overall size of the heap.

```
-XX:NewSize=XXXm, where XXX is the size in megabytes, is the command line parameter. -XmnXXXm can also be used interchangeably. Ie.
-XX:NewSize=700m, -Xmn700m
```

By setting a larger NewSize, the net effect is that the JRE will spend less time garbage collecting, clearing dead memory references, compacting and copying memory between spaces, and more time doing actual work.

**Use the Parallel Garbage Collector**

Confluence out of the box, and Sun Java as default, uses the serial garbage collector on the Full Tenured heap. The Eden space is collected
in parallel, but the Tenured is not. This means that at a time of load, if a full collection event occurs, since the event is a 'stop-the-world' serial
event, all application threads other than the garbage collector thread are taken off the CPU. This can have severe consequences if requests
continue to accrue during these 'outage' periods. As a rough guide, for every gigabyte of memory allocated, allow a full second (exclusive) to
collect.

If we parallelize the collector on a multi-core/multi-cpu architecture instance, we not only reduce the total time of collection (down from whole
seconds to fractions of a second) but we also improve the resiliency of the JRE in being able to recover from high-demand occasions.

Additionally, Sun provide a CMS, Concurrent Mark-Sweep Collector (-XX:+UseConcMarkSweepGC), which is more optimized for
higher-throughput, server-grade instances. As a general rule the Parallel Collector (-XX:+UseParallelOldGC) is suitable for most installations,
if you are keen to extract the best performance available, then the CMS collector is an option.

Virtual Machines are Evil

Vmware Virtual Machines, whilst being extremely convenient & fantastic, also obviously being a very strong growth segment of the industry,
cause particular problems for JAVA applications because it's very easy for host operating system resource constraints (ie, temporarily
insolvent memory availability, or I/O swapping), to cascade into the JAVA VM and manifest itself in extremely unusual, frustrating and
seemingly illogical problems. We already document some metrics with VMware images, and, although we now officially support the
use of virtual instances, we absolutely do not recommend them unless maintained correctly.

This is not to say that vmware instances cannot be used, but, they must be used with due care, proper maintenance and configuration.
Besides, if you are reading this document because of poor performance, the first port of call should be to remove any virtualization -
emulation will never beat the real thing, and at the least introduces black box variability into the system.

Use Java 1.6

Java 1.6 is generally regarded via public discussion to have an approximate 20% performance improvement over 1.5. Indeed, our own
internal testing revealed this statistic to be credible. 1.6 is compatible for all supported versions of Confluence, and we strongly recommend
that installations not using 1.6 migrate.

Use --server flag

The hotspot server JVM has specific code-path optimizations which yield an approximate 10% gain over the client version. Most installations
should already have this selected by default, but it is still wise to force it with --server, especially on some Windows machines.

If using 64bit JRE for larger heaps, use CompressedOops

For every JDK release Sun also build a "Performance" branch in which specifically optimized performance features can be enabled; It is
available on the Sun Java SE page after a brief survey. These builds are certified production grade.

Some blogs have suggested a 25% performance gain AND reduction in Heap size when using this parameter. The use and function of the
-XX:+UseCompressedOops parameter is more deeply discussed on Sun's Official Wiki (Co-incidentally, using Confluence!)

Use NUMA if on SPARC, Opteron or recent Intel (Nehalem or Tukwila onwards)

-XX:+UseNUMA flag enables the java heap to take advantage of Non-Uniform-Memory-Architectures. JAVA will place data structures
relevant to the thread which it owns / operates on, in memory locations closest to that particular processor. Depending on the environment,
gains can be substantial. Intel market NUMA as Quick Path Interconnect™.

Use 32bit JRE if Heap < 2G

Using a 64bit JRE when the heap is under 2G will hurt substantially in heap and performance, as nearly every object, reference, primitive,
class and variable will cost twice as much to address.

A 64bit JRE/JDK is only recommended if heaps greater than 2G are required. If so, use CompressedOops.

JVM coredumps can be instigated by memory pressures

If your instance of Confluence is throwing Java coredumps, it’s known that memory pressure and space / generation sizings can influence the
frequency and/or occurrence of this phenomena.

If your Tomcat process completely disappears and the logs record similar to:
An unexpected error has been detected by HotSpot Virtual Machine:

SIGSEGV (0xb) at pc=0xfe9bb960, pid=20929, tid=17

Java VM: Java HotSpot(TM) Server VM (1.5.0_01-b08 mixed mode)
Problematic frame:
V [libjvm.so+0x1bb960]

---------------  T H R E A D  ---------------
Current thread (0x01a770e0):  JavaThread "JiraQuartzScheduler_Worker-1" [thread_in_vm, id=17]
siginfo:si_signo=11, si_errno=0, si_code=1, si_addr=0x00000000

Registers:
O0=0xf5999882 O1=0xf5999882 O2=0x00000000 O3=0x00000000
O4=0x00000000 O5=0x000001 O6=0xc24ff0b0 O7=0x00080000
G1=0xfe9bb80c G2=0xf5999a48 G3=0x0a67677d G4=0xf5999882
G5=0xc24ff380 G6=0x00000000 G7=0x0fbc3800 Y=0x00000000
PC=0xfe9bb960 nPC=0xfe9bb964

We recommend a bug report be submitted to the JAVA Vendor, but in Support's experience, resource contention issues and core dumps are tightly coupled.

Instigate useful Monitoring techniques

At all times, the best performance tuning recommendations are based on current, detailed metrics. This data is easily available and configurable, and helps us at Atlassian, tremendously, when diagnosing reported performance regressions.

1. enable JMX monitoring
2. enable Confluence Access logging
3. enable Garbage Collection Logging
4. Take Thread dumps at the time of regression. If you can't get into Confluence, you can take one externally.
5. Jmap can take a memory dump in real time without impacting the application. Syntax: jmap -heap:format=b <process_id>

Great tools available include:
- The very excellent VisualVM, Documentation.
- Thread Dump Analyzer - great all round thread debugging tool, great for identifying deadlocks.
- Samurai, an excellent alternative thread analysis tool, great for iterative dumps over a period of time.
- GC Viewer - getting a bit long in the tooth, but is a good mainstay for GC analysis.
- GChisto - A new GC analysis tool written by members of the Sun Garbage Collection team.

Documentation:
- Sun's state-of-the-art JavaOne 2009 session on garbage collection (registration required).
- IBM stack: Java 5 GC basics for WebSphere Application Server.
- An Excellent IBM document covering native memory, thread stacks, and how these influence memory constrained systems. Highly recommended for additional reading.

Atlassian recommends at the very least to get VisualVM up and running (You need JMX), and to add Access and Garbage Collection logging.

Tuning the frequency of full collections

The JVM will generally only collect on the full heap when it has no other alternative, because of the relative size of the Tenured heap (it is typically larger than Eden), and the natural probability of objects within tenured not being eligible for collection. (ie. they are still alive).

Some installations can trundle along, only ever collecting in Eden space. As time goes on, some object will survive the initial Eden object slaughterhouse and be promoted to Tenured. At some point, it will be dereferenced and no longer reachable by the deterministic, directed object graph. However, the occupied memory will still be held in limbo as "dead" memory until a collection occurs in the Tenured space to clear and compact the space.

It is not uncommon for moderately sized Confluence installations to reclaim as much as 50% of the current heap size on a full collection; This is because full collections occur so infrequently. By reducing the occupancy fraction heap trigger, this means that more memory will be available at any time, meaning less swapping / object collections will occur when needed, ie, during the busy hour.

Atlassian would classify frequency tuning on collections as an advanced topic for further experimentation, and is provided for informational purposes only. Unfortunately, it's impractical for Atlassian to support this degree of 'ergonomics'.
Performance Tuning works

Atlassian has a number of high profile and some extremely high demanding, mission-critical clients who have successfully, through some trial and error, applied these recommendations to production instances and have very positively improved their Instances. For any more information, or guidance, please lodge a support case with the relevant information.

Cache Performance Tuning

Confluence performance can be significantly affected by the performance of its caches. It is essential for the administrator of a large production installation of Confluence to tune the caches to suit its environment. There are several configurable parameters for each of the cache regions, most notably cache size, cache expiry delay and eviction policy. In the majority of the cases, cache size is the parameter you would want to change. Fortunately, from Confluence 3.0, it is very easy to adjust cache sizes through the Administration Console. However, if you need to modify parameters other than a cache size, you would need to modify the relevant configuration files manually.

If you only need to modify Confluence's maximum cache sizes, you can do this through the Cache Statistics feature of the Administration Console.

The cache performance information for your Confluence installation is available under Administration > Cache Statistics. More information about the numbers displayed here is available on Cache Statistics.

On this page:
- Cache tuning example
- Finding the configuration file
- Cache Key Mappings
- Standard Editions of Confluence
  - Understanding the Ehcache Configuration File
  - Converting your Coherence configuration to Ehcache
- Clustered Editions of Confluence
  - Understanding the Coherence configuration file
  - Defining Caching Scheme Mappings in Coherence Cache config file
- Important Caches
- Cache Tuning Follow-Up

Cache tuning example

As an example of how to tune Confluence's caches, let's have a look at the following table:

<table>
<thead>
<tr>
<th>Caches</th>
<th>% Used</th>
<th>% Effectiveness</th>
<th>Objects/Size</th>
<th>Hit/Miss/Expire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachments</td>
<td>87%</td>
<td>29%</td>
<td>874/1000</td>
<td>78226/189715/187530</td>
</tr>
<tr>
<td>Content Attachments</td>
<td>29%</td>
<td>9%</td>
<td>292/1000</td>
<td>4289/41012/20569</td>
</tr>
<tr>
<td>Content Bodies</td>
<td>98%</td>
<td>81%</td>
<td>987/1000</td>
<td>28717/6671/5522</td>
</tr>
<tr>
<td>Content Label Mappings</td>
<td>29%</td>
<td>20%</td>
<td>294/1000</td>
<td>4693/18185/9150</td>
</tr>
<tr>
<td>Database Queries</td>
<td>96%</td>
<td>54%</td>
<td>968/1000</td>
<td>105949/86889/83334</td>
</tr>
<tr>
<td>Object Properties</td>
<td>27%</td>
<td>18%</td>
<td>279/1000</td>
<td>5746/25386/8102</td>
</tr>
<tr>
<td>Page Comments</td>
<td>26%</td>
<td>11%</td>
<td>261/1000</td>
<td>2304/17178/8606</td>
</tr>
<tr>
<td>Users</td>
<td>98%</td>
<td>5%</td>
<td>982/1000</td>
<td>6561/115330/114279</td>
</tr>
</tbody>
</table>

The caches above are of size 1000 (meaning that it can contain up to 1000 objects), which is the default size for caches in the default cache scheme. Refer to Confluence Cache Schemes for more explanation.

You can tell when a cache size needs to be increased because the cache has both:
- a high usage percentage (above 75%)
- a low effectiveness percentage.

Check the 'effectiveness' versus the 'percent used'. A cache with a low percent used need not have its size lowered; it does not use more memory until the cache is filled.

Based on this, the sizes of the "Attachments", "Database Queries", and "Users" caches should be increased to improve their effectiveness.

As the stored information gets older or unused it will expire and be eliminated from the cache. Cache expiry may be based on time or on frequency of use.

There is not much that you can do with a cache that has both a low percentage of usage and effectiveness. Over time, as the cache is populated with more objects and repeat requests for them are made, the cache's effectiveness will increase.
Finding the configuration file

The caches are configured in `ehcache.xml` (for standard editions) or `confluence-coherence-cache-config-clustered.xml` (for clustered editions) which is stored in `<confluence-home>/config/`.

Oracle Coherence Licensing Change:

- Due to a license agreement change between Atlassian and Oracle over the Coherence technology, from September 2009, Confluence will be made available in two editions:
  - **Standard Edition** — Confluence with Ehcache's caching technology (available to customers with non-clustered Confluence licenses).
  - **Clustered Edition** — Confluence with Oracle's Coherence clustering and distributed caching technology (available to customers with Confluence clustered licenses only).

If you are currently running a clustered installation of Confluence, please do not upgrade it with a standard edition of Confluence.

For more information about these changes, please refer to the Coherence License Changes document.

If you have a Confluence clustered license, are running a clustered installation of Confluence and wish to upgrade to Confluence version 2.6 or later after late September 2009, please ensure that you download only a clustered edition of Confluence and please refer to the Confluence 3.0.1 Upgrade Notes for additional upgrade information.

Cache Key Mappings

The cache configuration file configures caches by their keys. When you move your mouse over the the cache names displayed on the cache statistics page, a tooltip will indicate the actual cache key for that cache name.

Using our example from the table above, if we were to modify parameters for the Users cache we would need to change the cache with the key `com.atlassian.user.impl.hibernate.DefaultHibernateUser`. Do not get confused with `Users` (External Mappings) and `Users (External Groups)` which are in themselves, two separate caches. "Users" is the friendly name for `com.atlassian.user.impl.hibernate.DefaultHibernateUser`.

Standard Editions of Confluence

In standard editions of Confluence, the caching layer is Ehcache.

Understanding the Ehcache Configuration File

For more information about the Ehcache configuration file and a full reference on Ehcache configuration, please refer to the Ehcache configuration documentation.

Converting your Coherence configuration to Ehcache

This section only applies to customers who:

- Have an installation of Confluence that was downloaded before the 4th of September 2009.
- Intend to (or have already) upgraded to Confluence 3.0.1 or later (or to Confluence versions 2.6.3, 2.7.4, 2.8.3, 2.9.3 and 2.10.4).
- Will use a non-clustered Confluence license for the Confluence upgrade.
- Have implemented customisations to their Confluence installation's cache configuration file (`confluence-coherence-cache-config.xml`).

To maintain your existing cache configuration file settings, you will need to transfer any cache customisations you have implemented in the Coherence cache configuration file (`confluence-coherence-cache-config.xml`) to the relevant entries in the Ehcache cache configuration file (`ehcache.xml`).

Each cache has a `cache-mapping` element in the Coherence file (of which there is an equivalent `cache` element in the `ehcache.xml` file). Unfortunately, copying across your customisations is not quite a straightforward process because the Coherence file defines several ‘caching schemes’ to store the actual cache values, which in turn are referenced by the `cache-mapping` elements. In contrast, the `ehcache.xml` file does not support caching schemes and a cache's values are expressed explicitly in separate parameters of a `cache` element.

To convert your Coherence cache configuration file customisations across to the equivalent Ehcache file:

1. Open both the `confluence-coherence-cache-config.xml` and `ehcache.xml` files in a text editor. These files are located in the `<confluence-home>/config` directory.
If you implemented your customisations in a version of Confluence prior to 3.0, you will most likely find the
`confluence-coherence-cache-config.xml` file in the `<confluence-install>/confluence/WEB-INF/classes` directory.

2. In the customised `confluence-coherence-cache-config.xml` file:
   a. Identify the caching schemes that were customised in this file and make a note of the values of all its child elements.
   b. Note each customised caching scheme by the content of its `scheme-name` element.
   c. For each `cache-mapping` element (which typically appears towards the top of this file), identify if it has a `scheme-name` element whose content matches one noted in the previous step and if so, make a note of its associated `cache-name` element.

3. In the `ehcache.xml` file:
   a. Identify each `cache` element whose `name` parameter matches the `cache-name` elements noted in step ‘2c’.
   b. Using the mappings table below, apply the values noted in step ‘2a’ to the appropriate parameters of the `cache` elements identified in the previous step (‘3a’).

Mappings table showing how elements of the Coherence cache configuration file map to parameters of the equivalent Ehcache file.

<table>
<thead>
<tr>
<th>Coherence Element</th>
<th>Ehcache Attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>high-units</td>
<td><code>maxElementsInMemory</code></td>
</tr>
<tr>
<td>expiry-delay &gt; 0s</td>
<td><code>timeToIdleSeconds</code> - Use this attribute for expiry delays greater than 0s along with the <code>eternal</code> attribute set to 'false'</td>
</tr>
<tr>
<td>expiry-delay = 0s</td>
<td><code>eternal</code> - For expiry delays of 0s, set this attribute to 'true'.</td>
</tr>
</tbody>
</table>

Clustered Editions of Confluence

Understanding the Coherence configuration file

The Coherence configuration file is a mapping of `cache keys` to `cache schemes`. Each cache scheme controls the expiry, eviction policy and size of the caches linked to it. A cache scheme can extend another scheme.

For a full reference, see the Oracle's Coherence cache configuration documentation.

Defining Caching Scheme Mappings in Coherence Cache config file

If a cache key does not have an explicit definition in the caching scheme mappings (defined in `confluence-coherence-cache-config.xml`) then it will use the "default" cache-mapping.

In our example, `com.atlassian.user.impl.hibernate.DefaultHibernateUser` is not explicitly defined in the caching scheme mappings. Hence to increase the expiry-delay to 2 hours, we will need to define the mapping ourselves and add the following within the `<caching-scheme-mappings>` tags:

```xml
<cache-mapping>
  <cache-name>com.atlassian.user.impl.hibernate.DefaultHibernateUser</cache-name>
  <scheme-name>cache:com.atlassian.user.impl.hibernate.DefaultHibernateUser</scheme-name>
</cache-mapping>
```

Then we will need to define a cache schema with name `cache:com.atlassian.user.impl.hibernate.DefaultHibernateUser` within `<caching-schemes>` tags:

```xml
<local-scheme>
  <scheme-name>cache:com.atlassian.user.impl.hibernate.DefaultHibernateUser</scheme-name>
  <scheme-ref>default</scheme-ref>
  <high-units>10000</high-units>
  <expiry-delay>7200</expiry-delay>
</local-scheme>
```

It's possible to define a local-scheme mapping for a cache key without defining certain parameters (e.g. `<high-units>`). In such a case, their parameters will be inherited from `scheme-ref` scheme, which is the `default` scheme in our case.
Important Caches

The following suggestions are general guidelines. In cases of large databases, 20-30% of the size of the table may be unnecessarily large. Check the effectiveness and Percent Used categories in the cache for more specific assessments.

- `com.atlassian.confluence.core.ContentEntityObject` (known as Content Objects cache) should be set to at least 20-30% of the number of content entity objects (pages, comments, emails, news items) in your system. To find the number of content entity objects, use the query:
  \[ \text{select count(*) from CONTENT where prevver is null} \]

- `com.atlassian.confluence.core.ContentEntityObject.bodyContents` (known as Content Body Mappings cache) should be set to at least 20% of the number of content entity objects (pages, comments, emails, news items) in your system. To find the number of content entity objects, use the query:
  \[ \text{select count(*) from CONTENT where prevver is null} \]

- `com.atlassian.confluence.security.PermissionCheckDispatcher.isPermitted()` (known as User Authorized URLs cache) should be set to at least the number of concurrent users you expect to access Confluence at the same time

- `com.atlassian.user.impl.hibernate.DefaultHibernateUser` (known as Users cache) should be set to the number of users you have:
  \[ \text{select count(*) from users} \]

- `com.atlassian.confluence.security.SpacePermission` (known as Permissions cache) should be set to the number of space permissions in your deployment (a good rule of thumb is 20 times the number of spaces). You can find the number of space permissions using the query:
  \[ \text{select count(*) from SPACEPERMISSIONS} \]

Cache Tuning Follow-Up

After you have made changes to your cache config, doing a follow up on the changes in the next week or after the expected performance spike would be important.

Make sure that you take a screenshot of the cache statistics before and after the change. Then compare them with the cache statistics in the later period where performance improvement is expected.

You can monitor what's in the cache by using a JSP included in the Confluence distribution. Browse to `<base-URL>/admin/cachecontents.jsp` to monitor the cache contents.

RELATED TOPICS

Cache Performance Tuning for Specific Problems
Confluence Cache Schemes
Performance Testing Scripts
Working with Confluence Logs
Operating Large or Mission-Critical Confluence Installations
Confluence Clustering Overview
Requesting Performance Support
Administrators Guide
Configuration Guide

Cache Performance Tuning for Specific Problems

The following are more specific performance problems that can be resolved from tuning the cache.

**LDAP cache sizes and expiry does not appear to be picked up.**

This is a known problem, please refer to CONF-11858 for the solution.

**“Edit Page” screen takes a long time to load**

If your installation of Confluence is suffering from this problem, it may be due to an insufficient SpacePermissions cache size. To address this problem, first determine the number of space permission objects in your Confluence instance. You can do this by running this query against your database:

\[ \text{select count(*) from SPACEPERMISSIONS} \]

Now locate the cache entry for SpacePermissions in your `confluence-coherence-cache-config.xml`:
Adjust the `maxElementsInMemory` or `high-units` property to the number of space permissions you have (in the example above, I've used 10000). Also, just as important, you need to adjust the `timeToLiveSeconds` or `expiry-delay` property to 0.

**Note:** 10K of space permissions consumes approximately 8MB of memory. Please ensure there is enough memory allocated to your instance to cater for this.

### How to set specific cache settings

1. Find the cache name from the cache name mappings:
   - For **Confluence 2.5.x and earlier**, the cache name mappings are in file `confluence/WEB-INF/classes/com/atlassian/confluence/admin/actions/cache-name-mappings.properties`.
   - For **Confluence 2.6.0 and later**, you will find the cache name mappings in the file `com/atlassian/confluence/core/ConfluenceActionSupport.properties` which is packed into the `confluence-2.x.*.jar` file.
2. Find the appropriate `<cache-mapping>` tag in `confluence-coherence-cache-config.xml` or `confluence-coherence-cache-config-clustered.xml`. If the tag doesn't exist, you can create it within the `<caching-scheme-mapping>` tag.

   Attached to this page are corrected copies of `confluence-coherence-cache-config.xml` and `confluence-coherence-cache-config-clustered.xml`. These are updated from a bug CONF-11857.

3. The `<scheme-name>` will correspond to a `<local-scheme>` tag below. It refers to a scheme reference. Either change the high-units tag in the scheme reference, or add a high-units tag to override the scheme reference. For example, the following tag would change the Content Bodies cache from the default 1000 units to 2000 units:

   ```xml
   <local-scheme>
     <scheme-name>cache:com.atlassian.confluence.core.ContentEntityObject.bodyContents</scheme-name>
     <high-units>2000</high-units>
     <scheme-ref>default</scheme-ref>
     <expiry-delay>0s</expiry-delay>
   </local-scheme>
   ``

   Another popular cache to change is the LDAP related User cache:

   ```xml
   <local-scheme>
     <scheme-name>user</scheme-name>
     <scheme-ref>default</scheme-ref>
     <high-units>5000</high-units>
     <expiry-delay>300s</expiry-delay>
   </local-scheme>
   ``

4. After updating the appropriate file, you do not need to repack it into the jar to use it. You can simply place the file in your `confluence/WEB-INF/classes/` directory. The file in this directory will override the settings in your jar file. If you want to back out the changes, you only need to remove the file from your `confluence/WEB-INF/classes/` directory — then the default values in the `confluence-coherence-cache-config.xml` located in your jar file will apply.

You can find more information about configuring the Coherence cache in the Coherence cache documentation.

**RELATED TOPICS**

- Cache Performance Tuning
- Performance Testing Scripts
- Confluence Cache Schemes
- Working with Confluence Logs
- Operating Large or Mission-Critical Confluence Installations
- Confluence Clustering Overview
- Requesting Performance Support
- Administrators Guide
- Configuration Guide

### Confluence Cache Schemes

**Default Scheme**

If a cache has not been defined, then it will use the default cache size and expiry. As the start of your `confluence/WEB-INF/classes/confluence-coherence-cache-config.xml` file you will notice the following:

```xml
<cache-mapping>
  <cache-name>*</cache-name>
  <scheme-name>default</scheme-name>
</cache-mapping>
```
So basically all caches will default to using the default scheme, which is defined as below:

```
<!-- Default scheme -->
<local-scheme>
  <scheme-name>default</scheme-name>
  <class-name>com.atlassian.confluence.cache.tangosol.ExpiryCountingLocalCache</class-name>
  <high-units>1000</high-units>
  <expiry-delay>3600</expiry-delay>
</local-scheme>
```

I.e. with a size of 1000 Objects and an expiry of 3600 seconds. Other schemes use the above as their default and either override the size of the cache, or the length of the expiry.

**Common Schemes**

In addition to the default scheme, there are also common schemes used in Confluence caches:

```
<!-- Common schemes -->
<local-scheme>
  <scheme-name>large</scheme-name>
  <scheme-ref>default</scheme-ref>
  <high-units>10000</high-units>
</local-scheme>
<local-scheme>
  <scheme-name>medium</scheme-name>
  <scheme-ref>default</scheme-ref>
  <high-units>5000</high-units>
</local-scheme>
<local-scheme>
  <scheme-name>small</scheme-name>
  <scheme-ref>default</scheme-ref>
  <high-units>100</high-units>
</local-scheme>
<local-scheme>
  <scheme-name>large-transient</scheme-name>
  <scheme-ref>default</scheme-ref>
  <high-units>10000</high-units>
  <expiry-delay>300s</expiry-delay>
</local-scheme>
<local-scheme>
  <scheme-name>user</scheme-name>
  <scheme-ref>default</scheme-ref>
  <high-units>5000</high-units>
  <expiry-delay>300s</expiry-delay>
</local-scheme>
```

**RELATED TOPICS**

Cache Performance Tuning
Confluence Cache Schemes
Cache Performance Tuning for Specific Problems
Requesting Performance Support
Administrators Guide
Configuration Guide

**Configuring a Large Confluence Installation**

Deploying any application to several thousand users requires care and planning, especially if those users are going to be relying on the application to get their work done.

**General Advice**

**Staged Rollout**

Do not try to deploy Confluence immediately to your whole organisation. Instead, roll it out department by department, or project by project.

How Confluence will scale given a particular software and hardware configuration depends very much on how Confluence is likely to be used in your organisation. Launching Confluence to everybody at once may seem like a neat idea, but it also means that any problems you might experience scaling the system up to your entire organisation will hit you *all at once*, annoy everyone and possibly hurt adoption.

Rolling Confluence out gradually will give you the chance to tune it as you go, resulting in a much more painless experience. There will also be organisational advantages: you can identify those teams or projects who are most likely to be successful ‘early adopters’, and those teams can experiment with how best a wiki might suit your organisation, and pass on their ‘best wiki practices’ as usage of Confluence expands.

**Plugin Governance**

Confluence plugins can add tremendous value. Before adding one, visit the plugin’s page and explore its issues (available from the issue
management link). Try the plugin in a test environment, and make sure to note any adverse effects after adding it to a production environment. Test plugins independently when upgrading.

**Backup strategy**

Disable the XML backup and use the Alternative Backup Strategy.

**New Spaces Governance**

For both performance and good practice, put some modest governance in place around the creation of new spaces, such as a simple request that includes a check for duplicates and some strategy around how to best use a space. Duplicates and unused spaces should be purged by a wiki gardener. Try to keep it to one space per group.

**Choose User Management and Single Signon**

It is possible to integrate with an LDAP repository or add a Single Signon solution later (especially with the addition of Crowd), but if possible it's best to configure this up front. You can configure access for only a specific group or set of groups, thereby keeping the gradual rollout.

**Configuring your Application Server, Web Server and Database**

Because Confluence can be deployed in so many server combinations, we do not currently have guides on the best tuning parameters for each individual server. We will be happy to provide support, however. If you have any tuning parameters that you find particularly useful for Confluence instances, feel free to share them with other Confluence users in the Confluence Community space.

**Best Practices**

**Troubleshoot possible memory leaks**

The Troubleshooting Confluence Hanging or Crashing guide is a good place to start. Some of the known causes listed there could result in performance issues short of a crash or hang. Many of the issues reported there are exacerbated with a large installation.

**Memory Usage**

The Java virtual machine is configured with a "maximum heap size" that limits the amount of memory it will consume. If Confluence fills up this maximum heap size it will run out of memory, and start behaving unpredictably. You can keep track of Confluence's memory usage from the System Information screen of the administration console:

<table>
<thead>
<tr>
<th>Java VM Memory Statistics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Memory</td>
<td>313 MB</td>
</tr>
<tr>
<td>Free Memory</td>
<td>140 MB</td>
</tr>
<tr>
<td>Used Memory</td>
<td>173 MB</td>
</tr>
<tr>
<td>Memory Graph</td>
<td>![45 % Free]</td>
</tr>
</tbody>
</table>

This example shows that, at the time of writing, confluence.atlassian.com is using 173MB of an allocated 313MB of heap. (The JVM was configured with a maximum heap size of 450MB, but this information is not available in the graph. The 313MB figure shows that the full 450MB of heap has not yet been needed)

**Database Connection Pool**

Confluence will need a database connection for each simultaneous user connection to the server. It is also a good idea to have 5-10 connections spare for Confluence internal processes such as backups, re-indexing or daily notification jobs.

Running out of pooled connections will cause the server to slow down as more users are waiting for a connection to be freed before starting their own request, and will eventually cause visible system errors as Confluence times out waiting for a database connection.

If you are using Confluence's internal connection pool, you can increase the number of available connections by modifying the hibernate.c3p0.max_size property in {confluence_home}/confluence-cfg.xml, and restarting Confluence. **Make sure** you have also configured your database to be able to support that many simultaneous connections.

**Cache Sizes**

The Performance Tuning page includes some useful rules of thumb for configuring the sizes of Confluence's internal caches.

**RELATED TOPICS**

Operating Large or Mission-Critical Confluence Installations
Performance Tuning
Confluence Clustering Overview
Hi,

> 1) Opterons – for better or worse, we’re solely an Intel shop at this point (i.e. I’ll get some resistance going down the AMD path). It seems like the latest Woodcrest Xeons have caught up with the Opteron performance-wise (although AMD was smacking around Intel for a while before that). Have you the Woodcrest Xeons at all? (I’m guessing at this point you’re probably just interested in pursuing an Opteron path but I’d ask.)

We found the Opterons are perfect for running multithreaded apps - especially when running lots of Confluence / JIRA installs on a server in their own Resin containers. In addition, the Opterons use a less electrical power than their Intel counterparts which reduces our energy bills - for that reason we’ve not tried the Woodcrest chip yet. The chassis used for Opteron chips is also more established than the Woodcrest counterpart and is thus cheaper at the moment and has more options. Any dual-core will likely give better results, but you’ll obviously need your OS and other software on the server to be set-up to take advantage of them.

> 2) Resin vs. Tomcat – would you mind guessing at performance numbers from what you’ve seen? In a ton of Googling, it seems like people are saying that Tomcat was slow back with 4.x but got much faster with 5.x and even more with 5.5.x. See the comments in the first link.

Resin, properly configured, is still faster 😃 In addition, it uses a lot less RAM (important when you have 50 web apps in their own containers). We spent a lot of time super-fine-tuning Resin (about 4 months if memory serves - huge thanks to Cauché and the chaps at BeJUG) to run Confluence very nicely indeed. I can’t vouch for it’s speed with regards to other apps. We’ve found Resin to be highly stable (when correctly configured) and it deals very well with that elusives Confluence memory leak (something you notice on a site like JavaPolis[1] with over 17,600 registered users). It’s garbage collection, again when properly tuned, was better than Tomcat and we found many tasks easier to automate with Resin as compared to Tomcat.

Admittedly, a lot of the reasons that we chose Resin for are geared to an environment where we’re running up to 50 Confluences on a single server, each in their own web app. That’s quite a different scenario to what you are doing where you maybe have one or two Confluences on a server. Although, having said that, we use the same set-up for our dedicated hosting (we’re hosting some real BIG Confluence installs as you’ll know if you followed the discussion about the import routine we’ve been working on) and it works great in that environment too.

We use the commercial version of Resin[2] - it’s much better than the OS version as it has fewer bugs, runs more smoothly and has some real nice features (read: absolutely critically essential for the sanity of our staff thus reducing our monthly bills for padded cells and therapy) for the type of environment we use it in. We also really liked Cauché’s licensing of resin[3]: $500 per physical server with 2 cores (additional cores @ $500/core which is very reasonable) regardless of the number of Resin containers on that server.

It should be noted that some of the stats you provided links to were done on Windows running Cygwin - hardly an ideal server environment 😊 The second link (with all the graphs that people like me understand) was far more representative. We run on SuSE Linux 10 EMT64 (or something like that - whatever the latest version of their 64-bit OS is) so there’s no Windows bloat getting in the way of the web apps, etc.

> 3) Memory. I think I’ll go for DDR667 and see if I can bump Confluence up to 2 GB. Is there ever a point where you can allocate too much RAM? (i.e. java and/or Confluence just don’t handle tracking that many cached objects well?)

I think we’re up to 16GB in most of our servers now. Confluence does enjoy more RAM (although containers such as Resin bring the overall RAM consumption down a fair bit - very noticeable on servers with 50 containers/apps). More RAM means more space to cache and longer gaps between forced GC. RAM allocation is also vital when it comes to the nightly backup (or “the dreaded backup hour” as we refer to it) - you can imagine the CPU and RAM spikes caused by 50 large Confluence installations all deciding to backup at the same time (roll on Confluence 2.3[1])...

Should you have too much memory, you can always run a Quake server on there :) FYI: We also separate our database out on to a separate server.

Best Regards,

Guy

[1] http://www.javapolis.com - at last year’s conference the Belgian’s were somewhat annoyed at the term "SOA" which is an obscenity over there. They were also less than happy about the spoons in sexual positions plastered all over Antwerp (and several thousand Javopolians wearing the conference t-shirts). So this year Stephan and the crew have decided to push the boundaries to hitherto unimaginable levels - anyone who’s seen the promo video will know exactly what I mean (and no, not the white painted bloke next to the urinal - the video goes waaaay beyond that - how they got James Gosling to... well, you’ll have to wait and see)


Dan will probably be along in the morning to correct any mistakes I’ve made 😊

**Memory usage and requirements**

Managing Confluence’s performance and memory usage really depends on what resources are available - Confluence will run faster if you give it lots of memory for its caches, but it should still be able to run quite well in low-memory environments, with the right tuning. Below are some tips on getting the most out of your Confluence site:


---

**Increasing the amount of memory available to Confluence**

See Increasing JIRA Memory for details on how to increase the memory available to web application servers typically used to run Confluence.

**Embedded Database**

The embedded HSQL database that comes with Confluence essentially holds all your data in memory while the Confluence server is running. If you are running out of memory, you should consider migrating Confluence to some external RDBMS.

**Caching**

By default, Confluence keeps large in-memory caches of data to improve its responsiveness and the user experience. The trade off is an increase in memory requirements to support the cache. The default size of these caches will be reduced significantly in Confluence 1.5 (although this means that administrators of larger Confluence sites may need to configure the size of their caches to improve performance).

To customise Confluence's cache to meet your needs, see cache tuning.

To increase the amount of memory available to Confluence, see Fix Out of Memory errors by Increasing Available Memory.

**Mail error queue**

Confluence keeps a copy of all emails that it failed to send within an internal error queue. In the event of intermittent failures such as network connectivity issues, the emails in this queue can be manually resent when the problem is fixed. Under certain circumstances, the mail queue can fill up with large objects. Since Confluence 1.4.1 the queue is regularly flushed, but if you get a lot of mail errors, you might get a spike in memory usage.

**Attachments**

The indexing of large attachments requires that the attachment be loaded into memory. In the case of large attachments, this can cause a temporary strain on the systems resources, and may result in indexing failing because the attachment could not be fully loaded into memory.

**System backup / resort**

The Confluence backup and resort process scales linearly with the size of data. This can have a significant impact on large Confluence instances where the amount of data exceeds the amount of available memory. If you are experiencing OutOfMemoryErrors during either a backup or restore, you will either need to move to per space backups or increase the memory allocated to Confluence. This is addressed in the upcoming Confluence 2.0.

If you are attempting to restore a backup and encountering the OutOfMemoryError, how much memory will you need to make it work? A good rule of thumb is to have a look at the size of the entities.xml file in your backup. This file contains all of the data Confluence will be loading, so at least that much is required. Add another 64-128Mb to ensure that Confluence has enough memory to load and function and that should be enough.

This problem has been resolved in Confluence post 1.4.x. To increase the amount of memory available to Confluence, see Fix Out of Memory errors by Increasing Available Memory.

**Known issues that we do not have control over.**

There are also some memory issues we don't have any control over. For example,

- There's a memory leak in the Oracle 10g JDBC drivers. Not much we can do about that.
- one customer found a rather nasty memory leak that appeared to originate inside Tomcat 5, but only using the IBM JDK on PowerPC.

If you're having problems that appear to be a memory leak, file an issue on http://support.atlassian.com. Our memory profiler of choice is YourKit, so if you can get a memory dump from that tool showing a leak

**Confluence is taking long periods of time to respond to some actions**

A common cause of random pauses in Confluence is the JVM running garbage collection. To determine if this is what is happening, enable verbose garbage collection and look at how long Java is taking to free up memory. If the random pauses match when Java is running its garbage collection, garbage collection is the cause of the pause.

Verbose garbage collection will generate log statements that indicate when Java is collecting garbage, how long it takes, and how much memory has been freed.


For example, with a Windows service, run:

```
tomcat5\US\Confluence ++JvmOptions="-XX:+PrintGCDetails -XX:+PrintGCTimeStamps -verbose:gc -Xloggc: C:\confluence\logs\gc.log"
```
or in `bin/setenv.sh`, set:

```
export CATALINA_OPTS="$CATALINA_OPTS -XX:+PrintGCDetails -XX:+PrintGCTimeStamps -verbose:gc -Xloggc:${CATALINA_BASE}/logs/gc.log"
```

If you modify `bin/setenv.sh`, you will need to restart Confluence for the changes to take effect.

What can you do to minimise the time taken to handle the garbage collection? See [http://java.sun.com/docs/hotspot/gc1.4.2/](http://java.sun.com/docs/hotspot/gc1.4.2/) for details on tuning the JVM to minimise the impact that garbage collection has on the running application.

### Requesting Performance Support

#### Basic Performance Troubleshooting Steps

Begin with the following procedures:

1. Go through the Troubleshooting Confluence Hanging or Crashing page to identify the major known performance problems
2. Proceed with the Performance Tuning tips to help optimize performance

#### Requesting Basic Performance Support

If those tips don't help or you're not sure where to start, open a support ticket starting with at least the basic information:

1. The `atlassian-confluence.log`
2. The `catalina.out` log (or your application server log), with a series of three thread dumps separated by 10 seconds
3. A description with as much detail as possible regarding:
   a. What changes have been made to the system?
   b. When did performance problems begin?
   c. When in the day do performance issues occur?
   d. What pages or operations experience performance issues?
   e. Is there a pattern?

Continue with as much of the Advanced Performance Troubleshooting information as you can.

#### Advanced Performance Troubleshooting

Please gather all of the information listed below and include it in your support request, even if you think you have a good idea what's causing the problem. That way we don't have to ask for it later.

### System Information

#### Confluence Server

- Take a screenshot of Confluence's Administration System Information (or save the page as HTML)
- Take a screenshot of Confluence's Administration Cache Statistics (or save the page as HTML)
- Find out the exact hardware Confluence is running on
  - How many CPUs? What make and model? What MHz?
  - How much memory is installed on the machine?
  - How much memory is assigned to Confluence's JVM? (i.e. what are the -Xmx and -Xms settings for the JVM?)
  - What other applications are being hosted on the same box?

#### Confluence Content

- How many users are registered in Confluence?
- On average, how many groups does each user belong?
- How many spaces (global and personal) are there in your Confluence server?
- How many of those spaces would be viewable by the average user?
- Approximately how many pages? (Connect to your database and perform `select count(*) from content where prevver is null and contenttype = 'PAGE'`)
- How much data is being stored in Bandana (where plugins usually store data)? (Connect to your database and perform `select count(*), sum(length(bandanavalue)) from bandana`)

#### The Database

- What is the exact version number of Confluence's database server?
- What is the exact version number of the JDBC drivers being used to access it? (For some databases, the full filename of the driver JAR file will suffice)
- Is the database being hosted on the same server as Confluence?
- If it is on a different server, what is the network latency between Confluence and the database?
- What are the database connection details? How big is the connection pool? If you are using the standard configuration this information will be in your `confluence.cfg.xml` file. Collect this file. If you are using a Data source this information will be stored in your application server's configuration file, collect this data.
User Management

- Are you using external user management or authentication? (i.e. JIRA or LDAP user delegation, or single sign-on)
- If you are using external JIRA user management, what is the latency between Confluence and JIRA's database server?
- If you are using LDAP user management:
  - What version of which LDAP server are you using?
  - What is the latency between Confluence and the LDAP server?

Diagnostics

Observed Problems

- Which pages are slow to load?
  - If it is a specific wiki page, attach the wiki source-code for that page
- Are they always slow to load, or is the slowness intermittent?

Monitoring data

Before drilling down into individual problems, helps a lot to understand the nature of the performance problem. Do we deal with sudden spikes of load, or is it a slowly growing load, or maybe a load that follows a certain pattern (daily, weekly, maybe even monthly) that only on certain occasions exceeds critical thresholds? It helps a lot to have access to continuous monitoring data available to get a rough overview.

Here are sample graphs from the confluence.atlassian.com system, showing

Load

This graph shows the load for two consecutive days. The obvious pattern is that the machine is under decent load, which corresponds to the user activity, and there is no major problem.

Resin Threads and Database Connections

These two charts show the active threads in the application server (first chart) and the size database connection pool (second chart). As you can see, there was a sudden spike of server threads and a corresponding spike of db-connections.
The database connection pool size

The database connection pool size peaked over 112, which happened to be more than the maximum number of connections the database was configured for (100). So it was no surprise that some requests to Confluence failed and many users thought it had crashed, since many requests could not obtain the crucial database connections.

We were able to identify this configuration problem quite easily just by looking at those charts. The next spikes were uncritical because more database connections were enabled.

The bottom line being: it helps a lot to monitor your Confluence systems continuously (we use Hyperic, for example), and it helps even more if you are able to send us graphs when you encounter problems.

Access logs

- How to audit Confluence - enabling user access logging, including redirecting the logs to a separate file
  - You can run this file through a log file analyser such as AWStats, or manually look through for pages which are slow to load.

Profiling and Logs

- Enable Confluence’s built-in profiling for long enough to demonstrate the performance problem using Troubleshooting Slow Performance Using Page Request Profiling.
  - If a single page is reliably slow, you should make several requests to that page
  - If the performance problem is intermittent, or is just a general slowness, leave profiling enabled for thirty minutes to an hour to get a good sample of profiling times
- Find Confluence’s standard output logs (which will include the profiling data above). Take a zip of the entire logs directory.
- Take a thread dump during times of poor performance

CPU Load

- If you are experiencing high CPU load, please install the YourKit profile and attach two profiler dumps taken during a CPU spike. If the CPU spikes are long enough, please take the profiles 30-60 seconds apart. The most common cause for CPU spikes is a virtual machine operating system.
- If the CPU is spiking to 100%, try Live Monitoring Using the JMX Interface, in particular with the Top threads plugin.

Instance Metrics and Scripts

- It is essential to understand the user access and usage of your instance. Please use the access log scripts and sql scripts to generate Usage statistics for your instance.

Next Step

Open a ticket on https://support.atlassian.com and attach all the data you have collected. This should give us the information we need to track down the source of your performance problems and suggest a solution. Please follow the progress of your enquiry on the support ticket you have created.

If your site is non-responsive, please use our Live Support during business hours once you have created the ticket to escalate your problem.

Access Log Scripts

The access log scripts are attached to this page. To use the scripts:

1. Unzip the 7z file.
2. Copy all the daily access logs to a folder called logs.
3. Run Atlassian-processDailyLog.rb. This will generate a csv file called summary.csv and several directories which contain the access logs of each defined user action.
4. Run the appropriate script Atlassian-processDailyLog-hourly.rb <admin/comment/create/edit/search/rss>.
Each script will generate a different csv file. For example, Atlassian-processDailyLog-hourly.rb admin will process the admin logs extracted in step 3.

5. Import the csv files to www-log-Analysis.xls (summary.csv to 'raw stats - daily' sheet and admin.csv to 'admin - hours' sheet, etc) to generate the load profiles and graphs. You may need to modify the number of rows in each sheet depending on the number of logs.

Note

All scripts are written in Ruby and assume the log file name contains the string 'confluence.atlassian.com-access.log'. Scripts need to be changed if another name is used. Modify the line: filenameRegexp = Regexp.new('confluence.atlassian.com-access.log')

Obtaining Confluence Instance Metrics

This page can be used as a guide to obtain detailed performance information of your instance.

Please read the Confluence Reporting HOWTO for information about the reporting capabilities of Confluence, including the {sql} macro, charting and security.

Users and usage

Users

What is the typical number of concurrent active users i.e. number of concurrent requests being processed?

- users with currently active requests
- users currently using Confluence: e.g including reading a page, editing a page, viewing search results.
- users with sessions held in application server memory.
- users logged in active users (Note that Confluence uses "Remember Me" Session cookies and in my experience of Confluence, users never explicitly log out).
- define user types (viewer, editor, etc)

Usage

What is the average number of pages created per day, and similar usage stats (AWStat reports are a good starting place when User Access Logging is enabled)

To help interpret the raw access data, consider these important URL patterns:

- Searches: http://<host>/dosearchsite.action
- Rss requests: http://<host>/createrssfeed.action
- Dashboard: dashboard.action
- Creation: createpage.action
- Editing: http://<host>/pages/editpage.action
- Administrators: http://<host>/admin/*

Database usage statistics

Note: specify the date range

Table sizes

Example result:
The column `reltuples` is the number of rows in the table, `relpages` is the number of 8 KB pages used by the table. Indexes are included in this list as well.

In this example, the `bodycontent` table includes 170462 rows and is approximately 142 MB (18197 * 8 KB) in size.

**Content created per day**

```sql
select contenttype, min(number_of_changes), max(number_of_changes), avg(number_of_changes)
from (select contenttype, date_trunc('day', creationdate), count(*) as number_of_changes
     from content
     where content.creationdate > date '2007-01-01' and version = 1
     group by contenttype, date_trunc('day', creationdate)
) as dates
group by contenttype;
```

**Example result:**

<table>
<thead>
<tr>
<th>contenttype</th>
<th>min</th>
<th>max</th>
<th>avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAFT</td>
<td>4</td>
<td>6</td>
<td>5.00000000000000000000</td>
</tr>
<tr>
<td>MAIL</td>
<td>1</td>
<td>1</td>
<td>1.00000000000000000000</td>
</tr>
<tr>
<td>COMMENT</td>
<td>1</td>
<td>54</td>
<td>20.54000000000000000000</td>
</tr>
<tr>
<td>USERINFO</td>
<td>1</td>
<td>45</td>
<td>15.8112449799196787</td>
</tr>
<tr>
<td>SPACEDESCRIPTION</td>
<td>1</td>
<td>3</td>
<td>1.1403508771929825</td>
</tr>
<tr>
<td>PAGE</td>
<td>1</td>
<td>119</td>
<td>21.4593495934959350</td>
</tr>
<tr>
<td>BLOGPOST</td>
<td>1</td>
<td>64</td>
<td>5.5925925925925926</td>
</tr>
</tbody>
</table>

**Content edited per day**

```sql
select contenttype, min(number_of_changes), max(number_of_changes), avg(number_of_changes)
from (select contenttype, date_trunc('day', lastmoddate) as changedate, count(*) as number_of_changes
     from content
     where content.creationdate > date '2007-01-01'
     group by contenttype, date_trunc('day', lastmoddate)
) as dates
group by contenttype;
```

**Example result:**

<table>
<thead>
<tr>
<th>contenttype</th>
<th>min</th>
<th>max</th>
<th>avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLOGPOST</td>
<td>1</td>
<td>718</td>
<td>14.4705882352941176</td>
</tr>
<tr>
<td>COMMENT</td>
<td>1</td>
<td>73</td>
<td>23.51200000000000000000</td>
</tr>
<tr>
<td>DRAFT</td>
<td>4</td>
<td>6</td>
<td>5.00000000000000000000</td>
</tr>
<tr>
<td>MAIL</td>
<td>1</td>
<td>1</td>
<td>1.00000000000000000000</td>
</tr>
<tr>
<td>PAGE</td>
<td>1</td>
<td>4658</td>
<td>130.2650602409638554</td>
</tr>
<tr>
<td>SPACEDESCRIPTION</td>
<td>1</td>
<td>4</td>
<td>1.2033898305084746</td>
</tr>
<tr>
<td>USERINFO</td>
<td>1</td>
<td>48</td>
<td>16.7991967871485944</td>
</tr>
</tbody>
</table>

**Number of existing pages**

```sql
select contenttype, count(*) from content group by content.contenttype;
```

**Example result:**
Number of links per page

```
select http, max(linkcount), min(linkcount), avg(linkcount), stddev_pop(linkcount),
      stddev_samp(linkcount), var_pop(linkcount), var_samp(linkcount)
from
  ( select contentid, (links.destspacekey = 'http') as http, count(*) as linkcount
      from links
      group by contentid, (links.destspacekey = 'http')
  ) as links_per_page
  group by http
```

- Example result:

<table>
<thead>
<tr>
<th>http</th>
<th>max</th>
<th>min</th>
<th>avg</th>
<th>stddev_pop</th>
<th>stddev_samp</th>
<th>var_pop</th>
<th>var_samp</th>
</tr>
</thead>
<tbody>
<tr>
<td>false</td>
<td>1994</td>
<td>1</td>
<td>5.8366957470010905</td>
<td>32.7082672608353032</td>
<td>32.7104967872521825</td>
<td>1069.8307472062305489</td>
<td>1069.9766000688353519</td>
</tr>
<tr>
<td>true</td>
<td>189</td>
<td>1</td>
<td>2.9633190883190883</td>
<td>6.3609167066017375</td>
<td>6.3614831031752836</td>
<td>40.4612613483250948</td>
<td>40.46486846727097193</td>
</tr>
</tbody>
</table>

Number of characters per content body

```
select max(blength), min(blength), avg(blength), stddev(blength), variance(blength)
from (select length(body) as blength from bodycontent)
where blength > 0
```

- Example result:

<table>
<thead>
<tr>
<th>max</th>
<th>min</th>
<th>avg</th>
<th>stddev</th>
<th>variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>488707</td>
<td>1</td>
<td>2826.54255030305</td>
<td>8858.740996699238</td>
<td>78477292.046599816739</td>
</tr>
</tbody>
</table>

(Note this query takes a long time to execute.)

Number of characters per page body

```
select max(blength), min(blength), avg(blength), stddev(blength), variance(blength)
from (select length(bodycontent.body) as blength
      from bodycontent, content
      where bodycontent.contentid = content.contentid and contenttype='PAGE'
      ) as bodylengths
where blength > 0
```

- Example result:

<table>
<thead>
<tr>
<th>max</th>
<th>min</th>
<th>avg</th>
<th>stddev</th>
<th>variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>488707</td>
<td>1</td>
<td>3333.0885906386048069</td>
<td>9884.337162902180</td>
<td>97700121.150284961908</td>
</tr>
</tbody>
</table>
Example result:

<table>
<thead>
<tr>
<th>count</th>
<th>max</th>
<th>min</th>
<th>avg</th>
<th>stddev</th>
<th>sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>16082</td>
<td>107431588</td>
<td>0</td>
<td>207641.30972</td>
<td>2447904.9322</td>
<td>3339287543</td>
</tr>
</tbody>
</table>

Attachments per page

List the stats for attachments per page, only for those pages that actually have attachments.

Example result:

```
sel
ct count(*) as pages_with_attachments, avg(attachments_per_page), max(attachments_per_page), min(attachments_per_page), stddev(attachments_per_page) from (sel
ct count(*) as attachments_per_page from attachments group by attachments.pageid ) as app
```

<table>
<thead>
<tr>
<th>pages_with_attachments</th>
<th>avg</th>
<th>max</th>
<th>min</th>
<th>stddev</th>
</tr>
</thead>
<tbody>
<tr>
<td>4197</td>
<td>3.831784608</td>
<td>231</td>
<td>1</td>
<td>10.701305123</td>
</tr>
</tbody>
</table>

Configuration / plugin data stored in Bandana

- Just the global context

Example result:

```
sel
ct count(*), sum(length(bandanavalue)) from bandana where bandanacontext = 'GLOBAL'
```

<table>
<thead>
<tr>
<th>count</th>
<th>sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>84</td>
<td>47729</td>
</tr>
</tbody>
</table>

- All of the information

Example result:

```
sel
ct count(*), sum(length(bandanavalue)) from bandana
```

<table>
<thead>
<tr>
<th>count</th>
<th>sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>665</td>
<td>153094</td>
</tr>
</tbody>
</table>

Content

It is essential to obtain the typical configuration of database (#pages, #spaces, #registered users, etc), based on Global Stats Plugin.

Home directory usage statistics

On Unix-based environments like Linux and Mac OS X, you can use the following commands to gather information about the home directory usage.

Size of home directory components

```
du -sh /path/to/home/directory/`
```

Example output:

```
``
Number of attachments, including all versions

```
find /path/to/home/directory/attachments -type f | wc -l
```

Troubleshooting Slow Performance Using Page Request Profiling

This page tells you how to enable page-request profiling. With profiling turned on, you will see a record of the time it takes (in milliseconds) to complete each action made on any Confluence page. If Confluence is responding slowly, an internal timing trace of the slow page request can help to identify the cause of the delay.

You will need access to the Confluence server to view a profile.

In this page:
- Enabling Page-Request Profiling
- Profiling an Activity
- Example of a Profile
- Start Confluence with Profiling Enabled

**Enabling Page-Request Profiling**

From Confluence 2.7, you can use the 'Logging and Profiling' option to enable or disable profiling.

⚠️ You need to have System Administrator permissions in order to perform this function.

**To enable page profiling,**

1. Go to the 'Administration Console' and click 'Logging and Profiling' in the 'Administration' section of the left-hand panel.
2. The 'Logging and Profiling' screen appears. Click the 'Enable Profiling' button.
   ⚠️ If profiling is already enabled, the button will be labelled 'Disable Profiling' instead.

**To disable page profiling,**

1. Go to the 'Administration Console' and click 'Logging and Profiling' in the 'Administration' section of the left-hand panel.
2. The 'Logging and Profiling' screen appears. Click the 'Disable Profiling' button.
   ⚠️ If profiling is already disabled, the button will be labelled 'Enable Profiling' instead.

*Screenshot: Changing Log Levels and Profiling*
Performance Profiling
Profiling is currently OFF.

Enable Profiling

SQL Logging

Enable SQL Logging

Log4j Logging

Choose from one of the predefined logging options or configure logging below.

Production Diagnostic

OR:

Customise specific logging settings

Add New Entry

<table>
<thead>
<tr>
<th>Class/Package Name</th>
<th>New Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>com.atlassian.conf</td>
<td>INFO</td>
</tr>
<tr>
<td>com.atlassian.conf</td>
<td>INFO</td>
</tr>
<tr>
<td>com.atlassian.conf</td>
<td>INFO</td>
</tr>
<tr>
<td>com.atlassian.conf</td>
<td>INFO</td>
</tr>
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<td>INFO</td>
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<td>INFO</td>
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<td>INFO</td>
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<td>INFO</td>
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<td>INFO</td>
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<tr>
<td>com.atlassian.conf</td>
<td>INFO</td>
</tr>
<tr>
<td>com.atlassian.conf</td>
<td>INFO</td>
</tr>
<tr>
<td>com.atlassian.conf</td>
<td>INFO</td>
</tr>
<tr>
<td>com.atlassian.conf</td>
<td>INFO</td>
</tr>
</tbody>
</table>

Existing Levels

<table>
<thead>
<tr>
<th>Class/Package Name</th>
<th>Current Level</th>
<th>New Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>com.atlassian.conf.cluster</td>
<td>INFO</td>
<td>INFO</td>
</tr>
<tr>
<td>com.atlassian.conf.cluster.safety</td>
<td>INFO</td>
<td>INFO</td>
</tr>
<tr>
<td>com.atlassian.conf.importexport.impl.PdfExporter</td>
<td>ERROR</td>
<td>ERROR</td>
</tr>
<tr>
<td>com.atlassian.conf.lifecycle</td>
<td>INFO</td>
<td>INFO</td>
</tr>
<tr>
<td>com.atlassian.conf.upgrade</td>
<td>INFO</td>
<td>INFO</td>
</tr>
<tr>
<td>com.atlassian.conf.util.FileUtils</td>
<td>ERROR</td>
<td>ERROR</td>
</tr>
<tr>
<td>com.atlassian.upgrade</td>
<td>INFO</td>
<td>INFO</td>
</tr>
<tr>
<td>net.sf.hibernate.cache.ReadWriteCache</td>
<td>ERROR</td>
<td>ERROR</td>
</tr>
<tr>
<td>net.sf.hibernate.impl.SessionImpl</td>
<td>ERROR</td>
<td>ERROR</td>
</tr>
<tr>
<td>net.sf.hibernate.type.CustomType</td>
<td>ERROR</td>
<td>ERROR</td>
</tr>
<tr>
<td>net.sf.hibernate.util.JDBCExceptionReporter</td>
<td>ERROR</td>
<td>ERROR</td>
</tr>
<tr>
<td>org.apache.fop</td>
<td>ERROR</td>
<td>ERROR</td>
</tr>
<tr>
<td>root</td>
<td>WARN</td>
<td>WARN</td>
</tr>
</tbody>
</table>

Save

Profiling an Activity
1. Enable profiling, using either of the methods described above. Profiles for every page hit, for all users, will now be logged to your application server’s default logs until Confluence is restarted. Note that each time a user visits a link, a single profile is printed.

2. Confirm that profiles are being written to the Confluence log file — see Working with Confluence Logs for location of the log files and other details.

3. Perform the activity that is resulting in unusually slow response time.

4. Copy the profile for that action. When deciding which profiles to copy, look for the links that took a long time to respond. If a single page is slow, only that profile is necessary. If Confluence is generally or intermittently slow, copy all profiles logged during the slowdown until a reasonable sample has been collected.

5. If you were instructed to profile your instance by Atlassian technical support, attach all relevant profiles to your support ticket.

6. Turn profiling off again, using either of the methods described above.

7. Confirm that profiles are no longer being printed to the Confluence log file.

Example of a Profile

Below are the first few lines of a normal profile for accessing a page called Confluence Overview.

```
[344ms] - /display/ds/Confluence+Overview
[313ms] - XW Interceptor: Before defaultStack: /pages/viewpage.action
(ViewPageAction.execute())
  [0ms] - SpaceAwareInterceptor.intercept()
  [16ms] - PageAwareInterceptor.intercept()
  [0ms] - AOP: PageManager.getPage()
  [16ms] - AOP: PermissionManager.hasPermission()
  [0ms] - AOP: SpacePermissionManager.hasPermission()
  [16ms] - AOP: SpacePermissionManager.hasPermission()
  [0ms] - AOP: SpacePermissionManager.hasPermission()
  [0ms] - AOP: SpacePermissionManager.hasPermission()
  [281ms] - XW Interceptor: After defaultStack: /pages/viewpage.action
(ViewPageAction.execute())
  [281ms] - XW Interceptor: After validatingStack: /pages/viewpage.action
(ViewPageAction.execute())
...
```

Start Confluence with Profiling Enabled

There may be some situations where you may wish to have Confluence profiling enabled during startup. This may be useful if you restart often and may forget to enable profiling for Support/Trouble-shooting purposes.

Edit the file `CONFLUENCE_HOME/confluence/WEB-INF/web.xml`. You should see a stanza similar to the one below. Set the parameter value for `autostart` to `true`:

```
<filter>
  <filter-name>profiling</filter-name>
  <filter-class>com.atlassian.core.filters.ProfilingAndErrorFilter</filter-class>
  <init-param>
    <!-- specify the which HTTP parameter to use to turn the filter on or off -->
    <param-name>activate.param</param-name>
    <param-value>profile</param-value>
  </init-param>
  <init-param>
    <!-- specify the whether to start the filter automatically -->
    <param-name>autostart</param-name>
    <param-value>true</param-value>
  </init-param>
</filter>
```

Remember to turn it back to `false` or your logs will grow very large.

RELATED TOPICS

Requesting Performance Support
Working with Confluence Logs

Compressing an HTTP Response within Confluence

Confluence supports HTTP GZip transfer encoding. This means that if a user's web browser supports it, Confluence will compress the data it sends to the user. This will speed up Confluence over slow or congested Internet links, and reduce the amount of bandwidth consumed by a
Confluence server.

**Gzipping the HTTP Response is available in Confluence 1.4 and later.**

You should turn on Confluence’s GZip encoding if:

- Users are accessing Confluence over the Internet, or a WAN connection with limited bandwidth.
- You wish to reduce the amount of data transfer between the Confluence server and client.

If you are accessing Confluence over a Local Area Network or over a particularly fast WAN, you may wish to leave GZip encoding disabled. If the network is fast enough that transferring data from Confluence to the user isn’t a limiting factor, the additional CPU load caused by having to compress each HTTP response may in fact slow Confluence down.

**Known issues in Confluence 2.7 and earlier**

There are known issues with the GZip filter and memory consumption evident in versions 2.7 of Confluence and earlier ([CONF-9930](#)). If you are running a large instance of Confluence 2.7 or earlier and frequently experiencing ‘out of memory’ errors, we recommend that you do not enable HTTP compression. These issues have been resolved in Confluence 2.8.

**Enabling HTTP Compression**

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
   - Select 'General Configuration' in the left-hand panel.
   - Enable 'Compress HTTP Responses'.

In Confluence 2.8 and later, you can configure which types of content are compressed within Confluence. By default, the following mime types will be compressed:

- text/html
- text/javascript
- text/css
- text/plain
- application/x-javascript
- application/javascript

If you wish to change the types of content to be compressed, add a replacement `urlrewrite-gzip-default.xml` file within the `WEB-INF/classes/com/atlassian/gzipfilter/` directory in your Confluence Installation Directory. A sample file is provided as an attachment. Generally speaking, it is unlikely that you will need to alter this file.

**RELATED TOPICS**

- Performance Tuning
- Administrators Guide

**Performance Testing Scripts**

**Load Testing Confluence**

This page contains scripts and hints on load-testing your Confluence installations.

**Contents**

**Introduction**

Before making a new Confluence instance available to your users it is useful to get a feel for how it will perform under your anticipated load and where you may need to consider improving your configuration to remove bottlenecks. Likewise, before making changes to your Confluence instance it would again be useful to assess the impact of these changes before making them live in a production context.

This kind of testing is not an exact science but the tools and process described here are intended to be a straightforward, configurable and extensible way of allowing you to begin this kind of load testing.

It will rarely be the case that these scripts will perform representative testing for you ‘out of the box’. But either through configuration or by extending the scripts it should be possible to build an appropriate load test.

**Load testing scripts are not designed for a production environment**

The load testing scripts will update the data within the targeted Confluence instance and are not designed to be run against a production server. If you want to load test your production environment you will need to perform these tests on a backup of your data and restore your real data after the tests.
Setup

You will need the following -

- A Confluence server, set up and running with an admin user. The scripts assume a default username and password for this user: 'admin'/'admin'.
- Apache JMeter (currently version 2.3.4).
- The load testing scripts and resources which are available in our public Maven repository - version 3.0.2

The Maven Repository has both ZIP and TAR archives. These archives contain the same files - if in doubt, download the ZIP file archive.

Users have reported problems when using the Windows built-in UNZIP utility. Please use a 3rd party unzip program such as WinZIP to extract these Performance Tests

The test scripts have been updated to work with Confluence 3.0 in version 3.0.2. Using an older version of the tests will result in errors when running the test.

Quick, Just Tell Me How To Run It.

If you don't want to read the rest of this document, here are the main points:

1. Create the test data:

   `<jmeter location>/bin/jmeter -n -t jmeter-test-setup.jmx -Jscript.base=<scripts location> -Jspace.zip=<path to a demo space ZIP file> \ -Jadmin.user=<username> -Jadmin.pass=<password>`

2. Run the test:

   `<jmeter location>/bin/jmeter -n -t jmeter-test-fixedload.jmx -Jscript.base=<scripts location>`

The remainder of this document is just an elaboration of those two steps.

For information on how to use JMeter please refer to the manual

Creating the Test Data

A known data set is required to run the testing against. By default this is the Confluence demo space (space key = DS) although this can be changed (more on this later). If you decide to use the Confluence demo space, ensure that the group "confluence-users" is able to update content in this space.

The script `jmeter-test-setup.jmx` is used to:

- create a set of users to be used in the test
- import the Confluence demo space for running tests against.

You should first ensure that you don't already have the demo space (key = DS) on your test instance. Delete it if you do.

Run the script from the `performance-testing` directory as follows:

   `<jmeter location>/bin/jmeter -n -t jmeter-test-setup.jmx -Jscript.base=<scripts location> -Jspace.zip=<path to a space export.zip> \ -Jadmin.user=<username> -Jadmin.pass=<password>`

Where:

- `<scripts location>` is the absolute path to where you expanded the scripts e.g. /Users/YourName/Download/performanceTest. This defaults to the current directory. This is needed for the script to find its external resources and must be specified absolutely since JMeter occasionally does unexpected things with the working directory when it is running.

- `<path to a space export.zip>` is the absolute path to the space export zip you want to be used in your testing. For example, the path to `demo-site.zip` as found in your Confluence distribution or source: `<confluence install>/confluence/WEB-INF/classes/com/atlassian/confluence/setup/demo-site.zip`
• `<username>` and `<password>` are the username and password for an admin user that is able to create Confluence users and to import spaces.

By default the setup process will create 250 users — 50 each of the following formats: tstreader<n>, tstcommentor<n>, tsteditor<n>, tstcreator<n> and tstsearcher<n>. The password for each matches the username.

A typical run of the setup script will only take a few seconds.

**Removing the Test Data**

You can reverse the effects of the setup script by setting the `remove.data` parameter to `true`, e.g.

```bash
<jmeter location>/bin/jmeter -n -t jmeter-test-setup.jmx -Jscript.base=<scripts base> -Jremove.data=true -Jadmin.user=<username> -Jadmin.pass=<password>
```

**Setup Script Parameters**

You can modify the behaviour of the setup script via JMeter parameters. These are supplied on the command line in the form `-J<parameter name>=<parameter value>`.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>script.base</td>
<td>.</td>
<td>The absolute path to the script. Default to the current directory.</td>
</tr>
<tr>
<td>space.zip</td>
<td>N/A</td>
<td>The absolute path to space export zip file to be imported as test data.</td>
</tr>
<tr>
<td>remove.data</td>
<td>false</td>
<td>Run the script in reverse — remove all test data.</td>
</tr>
<tr>
<td>admin.user</td>
<td>admin</td>
<td>The admin user name used to import data and create users.</td>
</tr>
<tr>
<td>admin.pass</td>
<td>admin</td>
<td>The password for the admin user.</td>
</tr>
<tr>
<td>confluence.context</td>
<td>confluence</td>
<td>The confluence webapp context.</td>
</tr>
<tr>
<td>confluence.host</td>
<td>localhost</td>
<td>The address or host name of the test instance.</td>
</tr>
<tr>
<td>confluence.port</td>
<td>8080</td>
<td>The port of the test instance.</td>
</tr>
<tr>
<td>space.key</td>
<td>ds</td>
<td>The space key for the space import that will be tested against.</td>
</tr>
<tr>
<td>space.setup</td>
<td>true</td>
<td>Control whether the test space will be created (or removed).</td>
</tr>
<tr>
<td>creator.max</td>
<td>50</td>
<td>The number of users to be created for adding pages.</td>
</tr>
<tr>
<td>editor.max</td>
<td>50</td>
<td>The number of users to be created for editing existing pages.</td>
</tr>
<tr>
<td>reader.max</td>
<td>50</td>
<td>The number of users to be created for viewing existing pages.</td>
</tr>
<tr>
<td>searcher.max</td>
<td>50</td>
<td>The number of users to be created for performing searches.</td>
</tr>
</tbody>
</table>

**Setup Script Output**

On the console you will see no obvious indication of success or otherwise. JMeter will output something similar to this:

```plaintext
Created the tree successfully
Starting the test @ Mon Apr 14 17:35:08 BST 2008 (1208158508222)
Tidying up ... @ Mon Apr 14 17:35:08 BST 2008 (1208158508928)
... end of run
```

The `scripts location/results` directory will contain the file `jmeter-result-setuptest.jtl`. There were failures or errors if there are any assertions in this file that have the value `true` for the failure or error element, e.g.

```xml
<assertionResult>
  <name>Manage Users</name>
  <failure>true</failure>
  <failureMessage>Test failed: URL expected to contain /browseusers.action/</failureMessage>
</assertionResult>
```

**Running the Test**
The test script itself will put Confluence under a fixed load. Each thread group will attempt to do a certain amount of work for a prescribed period of time (30 minutes by default). This is by design so that load during test runs can accurately be compared against each other.

Execute the test as follows:

```
<jmeter location>/bin/jmeter -n -t jmeter-test-fixedload.jmx -Jscript.base=<scripts location>
```

Where:

- `<scripts location>` is the absolute path to where you extracted the scripts e.g. `/Users/YourName/Download/performanceTest`. This is needed for the script to find its external resources.

**Test Behaviour**

The test has a number of parameters to tweak its behaviour but generally speaking it has the rough format of:

- 5 groups of users - readers, commentors, searchers, editors and creators.
  - readers simply view a set of individual pages or browse space functionality.
  - commentors add comments to a set of pages.
  - searchers perform searches on a fixed set of keywords.
  - editors make small additions to the end of a set of pages.
  - creators add new pages to a particular space.
- Each individual user in each group will repeat for a fixed amount of time with a small pause between each request.

Note that there is no execution of JavaScript by the client. Keep this in mind if you use this test to gauge Confluence performance in a production environment.

There is also very little use of permissions in these tests. All data involved is accessible to all of the test users.

**Test Script Parameters**

You can modify the behaviour of the test script via JMeter parameters. These are supplied on the command line in the form `-J<parameter name>=<parameter value>`.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>script.base</code></td>
<td>.</td>
<td>The absolute path to the script. Defaults to the current working directory.</td>
</tr>
<tr>
<td><code>confluence.context</code></td>
<td>confluence</td>
<td>The confluence webapp context.</td>
</tr>
<tr>
<td><code>confluence.host</code></td>
<td>localhost</td>
<td>The address or host name of the test instance.</td>
</tr>
<tr>
<td><code>confluence.port</code></td>
<td>8080</td>
<td>The port of the test instance.</td>
</tr>
<tr>
<td><code>create.page.prefix</code></td>
<td>Nihilist</td>
<td>The title prefix for any created page e.g. Nihilist00001.</td>
</tr>
<tr>
<td><code>script.runtime</code></td>
<td>1800</td>
<td>The amount of time the script will run for in seconds.</td>
</tr>
</tbody>
</table>

**Test Thread Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>threads.reader</code></td>
<td>15</td>
<td>Number of readers.</td>
</tr>
<tr>
<td><code>pause.reader</code></td>
<td>2000</td>
<td>The approximate (within 500ms) millisecond pause between reader repeats.</td>
</tr>
<tr>
<td><code>threads.searcher</code></td>
<td>8</td>
<td>Number of searchers.</td>
</tr>
<tr>
<td><code>pause.searcher</code></td>
<td>2000</td>
<td>The approximate (within 500ms) millisecond pause between searcher repeats.</td>
</tr>
<tr>
<td><code>threads.creator</code></td>
<td>3</td>
<td>Number of page creators.</td>
</tr>
<tr>
<td><code>pause.creator</code></td>
<td>2000</td>
<td>The approximate (within 500ms) millisecond pause between creator repeats.</td>
</tr>
<tr>
<td><code>threads.editor</code></td>
<td>3</td>
<td>Number of page editors.</td>
</tr>
<tr>
<td><code>pause.editor</code></td>
<td>2000</td>
<td>The approximate (within 500ms) millisecond pause between editor repeats.</td>
</tr>
<tr>
<td><code>threads.commentor</code></td>
<td>4</td>
<td>Number of page commentors.</td>
</tr>
<tr>
<td><code>pause.commentor</code></td>
<td>2000</td>
<td>The approximate (within 500ms) millisecond pause between commentor repeats.</td>
</tr>
</tbody>
</table>

In version 3.0 of the tests, it's now possible to control the percentage executions of certain actions. These percentages are defined in the "Thread Details" configuration screen.

So with the default parameters, you are emulating a load on Confluence of 33 concurrent users who will each be hitting the server
approximately every 2 seconds (16 users per second).

23 of these users are read only (searchers or readers) and 10 of them are read/write — 11 read only users per second and 5 read/write users per second.

**Test Script Output**

During the run of the test script Jmeter will output progress to the console of the form:

```
Created the tree successfully
Starting the test @ Fri Apr 18 00:07:39 EST 2008 (1208441259523)
Display Summary Results During Run + 462 in 77.6s = 5.9/s Avg: 1364 Min: 18 Max: 33738 Err: 1 (0.02%)  
Display Summary Results During Run + 1338 in 189.9s = 7.0/s Avg: 3596 Min: 24 Max: 34545 Err: 0 (0.00%)  
Display Summary Results During Run + 1800 in 257.6s = 7.0/s Avg: 3074 Min: 18 Max: 34545 Err: 1 (0.06%)  
Display Summary Results During Run + 1046 in 200.9s = 5.2/s Avg: 4529 Min: 40 Max: 50461 Err: 0 (0.00%)  
Display Summary Results During Run = 2846 in 348.2s = 8.0/s Avg: 3695 Min: 18 Max: 50461 Err: 1 (0.04%)  
Display Summary Results During Run + 677 in 201.2s = 3.4/s Avg: 6638 Min: 46 Max: 27636 Err: 0 (0.00%)  
Display Summary Results During Run = 3523 in 618.1s = 5.7/s Avg: 4191 Min: 18 Max: 50461 Err: 1 (0.03%)  
Display Summary Results During Run + 561 in 197.5s = 2.8/s Avg: 8326 Min: 171 Max: 39494 Err: 0 (0.00%)  
Display Summary Results During Run = 4084 in 798.3s = 5.1/s Avg: 4759 Min: 18 Max: 50461 Err: 1 (0.02%)  
Display Summary Results During Run + 555 in 199.2s = 2.8/s Avg: 8247 Min: 160 Max: 45270 Err: 0 (0.00%)  
Display Summary Results During Run = 4639 in 978.0s = 4.7/s Avg: 5177 Min: 18 Max: 504
```

**Scheduled Jobs**

This page provides a quick overview of the jobs that are scheduled to run regularly in your Confluence instance.

<table>
<thead>
<tr>
<th>Job Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>backupJob</td>
<td>performs a site backup</td>
</tr>
<tr>
<td>mailQueueFlushJob</td>
<td>sends notifications that have been queued up</td>
</tr>
<tr>
<td>referralQueueFlushJob</td>
<td>referrals to Confluence pages are queued up. This job writes this referrals to the database</td>
</tr>
<tr>
<td>taskQueueFlushJob</td>
<td>flushes the task queue</td>
</tr>
<tr>
<td>cleanTempDirectoryJob</td>
<td>this cleans up temp files created in Confluence home temp directory (created by exports etc.)</td>
</tr>
<tr>
<td>dailyReportJob</td>
<td>sends out an email summary of all changes in Confluence to all subscribers</td>
</tr>
<tr>
<td>clearOldMailErrorsJob</td>
<td>notifications that fail to send due to errors are added to the mail error queue. This job resets this clear periodically.</td>
</tr>
<tr>
<td>indexQueueFlushJob</td>
<td>each content update to Confluence needs to be updated in index so search results are accurate. This job flushes changes to the index.</td>
</tr>
<tr>
<td>indexOptimizerJob</td>
<td>index optimization is performed to compact the index and maintain searching performance. This task is expensive and does not need to be performed too regularly. If you see Confluence performance deteriorate around 3pm, you can try scheduling this job for 3am only and check that search performance remains reasonable.</td>
</tr>
<tr>
<td>indexQueueCleanJob</td>
<td>this job is responsible for periodically triggering an Index Queue clean to ensure that size of the index queue does NOT grow indefinitely.</td>
</tr>
<tr>
<td>mailPollJob</td>
<td>polls POP accounts on all spaces that have them configured.</td>
</tr>
<tr>
<td>clusterSafetyJob</td>
<td>ensures that only one cluster is ever writing to the database at one time. For non-clustered instances, this job is still useful for alerting customers that have accidentally deployed two instances of Confluence against the same database.</td>
</tr>
</tbody>
</table>

**Search**
Setup Confluence To Index External Sites

Confluence Indexing External Sites

Confluence cannot easily index external sites due to technical reasons, but there are two alternatives:

1. Embed External Pages Into Confluence
2. Replace Confluence Search

Technical Reasons

Confluence indexes pages using a customised Lucene search engine that returns matching pages, mail and blog posts for which the searcher has view permission. It would require significant source code modifications to enable Confluence to process search results from external pages, as the indexing process has been customised to utilise internal Confluence metadata. Note that users can still index content from new attachment filetypes.

Embed External Pages Into Confluence

If you only have a small number of external sites to index, you may prefer to enable the HTML-include Macro and use it embed the external content inside normal Confluence pages.

Replace Confluence Search

Use your own programmer resources to replace Confluence's internal search with a crawler that indexes both Confluence and external sites. This advanced option is easier than modifying the internal search engine. It requires removing Confluence internal search from all pages and replacing the internal results page with your own crawler front-end.

1. Setup a replacement federated search engine to index the Confluence site, as well as your other sites, and provide the results that way. You would need to host a web crawler, such as these open-source crawlers. Note that you can perform a search in Confluence via the remote API.
2. Replace references to the internal search by modifying the site layout so that it links to your search front-end.
3. Host another site containing the search front-end. You may wish to insert it into a suitable context path in your application server so that it appears to be from a path under Confluence. Tomcat sets Confluence's paths from the Confluence install\confluence\WEBINF\web.xml file.

RELATED TOPICS

Setup External Search Tool To Index Confluence

Setup External Search Tool To Index Confluence

Any web crawler can be configured to index Confluence content, for example the Google Search Appliance or similar. If a login is required to view content that will be indexed, you should create a Confluence user specifically for the search crawler to use. Grant this user view rights to all content you wish to index, but deny that user all delete and administration rights. This ensures that an aggressive crawler will not be able to perform actions that could modify the site. There is also a forum thread on Google Mini integration.

External applications can also use the search function in the Confluence Remote API.

Related Information

- Setup Confluence To Index External Sites
- Setup External Search Tool To Index Confluence
- Integrate Confluence Search to Jira Search
Confluence 3.0 Documentation

Setup Confluence To Index External Sites
Setup External Search Tool To Index Confluence
Setup External Search Tool To Index Confluence
Setup External Search Tool To Index Confluence
Setup External Search Tool To Index Confluence
Indexing External Content
Setup Confluence To Index External Sites
Setup Confluence To Index External Sites

Security

- Spam Prevention via Captcha
- Adding SSL for Secure Logins and Page Security
- Anonymous Access to Remote API
- Confluence Cookies
- Enabling or Disabling Public Signup
- Hiding External Links From Search Engines
- Hiding the People Directory
- Managing External Referrers
  - Excluding external referrers
  - Hiding external referrers
  - Ignoring External Referrers
- User Email Visibility

Spam Prevention via Captcha

You need to be a Confluence administrator to enable Captcha.

If your Confluence site is open to the public you may find that automated spam is being added, in the form of comments or new pages.

You can configure Confluence to deter automated spam by asking users to prove that they are human before they are allowed to:

- Sign up for an account
- Add a comment
- Create a page
- Edit a page

Captcha is the technical term for a test that can distinguish a human being from an automated agent such as a web spider or robot.

When Captcha is switched on, users will need to recognise a distorted picture of a word, and must type the word into a text field. This is easy for humans to do, but very difficult for computers.

You can configure Confluence to enforce Captcha for certain types of users. You can exempt logged-in users (they will have completed a Captcha when they signed up), or members of particular groups.

By default, Captcha images will not be shown to logged-in users. Only anonymous users will have to perform the Captcha test when creating comments or editing pages.

To enable Captcha for Confluence,
1. Go to the Confluence ‘Administration Console’. To do this:

   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.

2. Select ‘Spam Prevention’ from the ‘Configuration’ menu on the left.

3. Turn on Captcha by clicking the ‘ON’ link.

4. If you want to disable Captcha for certain groups:
   - Select ‘No one’ if you want everyone to see Captchas.
   - Select ‘Signed in users’ if you want only anonymous users to see Captchas.
   - If you want everyone to see Captchas except members of specific groups, select the ‘Members of the following groups’ and enter the group names in the text box.
     - You can click the magnifying-glass icon to search for groups. Search for all or part of a group name and click the ‘Select Groups’ button to add one or more groups to the list.
   - To remove a group from the list, delete the group name.

5. Click the ‘Save’ button.

---

**Adding SSL for Secure Logins and Page Security**

This document describes how to configure Confluence to use a HTTPS encrypted secure socket layer for user logins and page data.

Unencrypted confidential data within Confluence may be intercepted by an attacker. To secure user logins, you can enable access via HTTPS (HTTP over SSL), and require its use for pages where passwords are sent. In some cases where issue data is sensitive, all pages can be set to be accessed over HTTPS.

Enabling SSL access is different for each application server, but specifying which pages to require protection for is generic. This document is specific to Tomcat, the default application server shipped with Confluence.

On this page:

- Adding Secure User Logins
  - Creating A New SSL Certificate
  - Verify the Certificate is in the Correct Location
    - Specifying URL Patterns to be Redirected
- Troubleshooting

**Adding Secure User Logins**

Adding HTTPS requires a valid SSL certificate. If you have a Certificate prepared, skip to the 'Modify the <INSTALL>/conf/server.xml File' section.

**Creating A New SSL Certificate**

Creating a self-signed certificate

The following commands are in reference to JDK 1.5. For commands/syntax relevant to JDK 1.6, please refer to this document.

On Windows, perform the following at the command prompt:

```
%%JAVA_HOME%%\bin\keytool" -genkey -alias tomcat -keyalg RSA
```

Or on other platforms, perform the following at the command prompt:

```
$JAVA_HOME/bin/keytool -genkey -alias tomcat -keyalg RSA
```

Some questions will be asked, including a password for the certificate (the default is 'changeit'). Please note down what you choose, as it will be used in the next step.

**“IE7 on Vista Issue”**

If your clients will access Confluence from Internet Explorer 7 on Vista, please ensure that you specify the -keyalg RSA flag. By default the SHA1 algorithm is used, which results in 'Internet Explorer cannot display the webpage' errors on IE7 on Vista. Apparently on JDK 1.6 you also need to specify the -sigalg MD5withRSA flag since -keyalg RSA will still result in SHA1 being used (see this blogpost for more information).
**Modify the `<INSTALL>/conf/server.xml` File**

In the confluence directory, open the `conf/server.xml` file and insert one of the following just after the closing `<Engine>` tag:

1. **For users of Confluence 2.10 or later:**
   
   Open `conf/server.xml`, uncomment the lines:
   ```xml
   <Connector port="8443" maxHttpHeaderSize="8192"
       maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
       enableLookups="false" disableUploadTimeout="true"
       acceptCount="100" scheme="https" secure="true"
       clientAuth="false" sslProtocol="TLS"
       URLEncoding="UTF-8" keystorePass="<MY_CERTIFICATE_PASSWORD>"/>
   ```

   Or for users of Confluence 2.2 to 2.9.2:
   
   Open `conf/server.xml`, uncomment the lines:
   ```xml
   <Connector port="8443" maxHttpHeaderSize="8192"
       maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
       enableLookups="false" disableUploadTimeout="true"
       acceptCount="100" scheme="https" secure="true"
       clientAuth="false" sslProtocol="TLS"
       URLEncoding="UTF-8" keystoreFile="<MY_CERTIFICATE_LOCATION>">
       keystorePass="<MY_CERTIFICATE_PASSWORD>"/>
   ```

   If your Confluence server is running off Apache Tomcat version 6.0.0 or later, you should ensure that the parameter-value pair `SSLEnabled="true"` has been added to the `Connector` tag above.

**Establishing a CA-issued Certificate**

In preparation for a production instance, an official CA-issued key pair is required. Find instructions in the Tomcat documentation.

**Verify the Certificate is in the Correct Location**

By default, Tomcat will look for the certificates in the file `C:\Documents and Settings\#CURRENT_USER#\.keystore` on Windows or `~/.keystore` on Unix. If your Certificate is not in this location, you will need to update your `<INSTALL>/conf/server.xml` file as outlined below, so that Tomcat can find it.

1. **For users of Confluence 2.2 or later:**
   
   Open `conf/server.xml`, add the `keystoreFile="<MY_CERTIFICATE_LOCATION>"` parameter to the `Connector` tag as shown below:
   ```xml
   <Connector port="8443" maxHttpHeaderSize="8192"
       maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
       enableLookups="false" disableUploadTimeout="true"
       acceptCount="100" scheme="https" secure="true"
       clientAuth="false" sslProtocol="TLS"
       URLEncoding="UTF-8" keystorePass="<MY_CERTIFICATE_PASSWORD>"
       keystoreFile="<MY_CERTIFICATE_LOCATION>"/>
   ```

   Make sure to change your Server Base URL to https.

**Specifying URL Patterns to be Redirected**

Restart Tomcat and access your instance on `https://<MY_BASE_URL>:8443/`.

For more detailed information on setting up SSL with Tomcat (including additional configuration options), have a look at Tomcat 5.5 SSL or Tomcat 6 SSL.

Although HTTPS is now activated and available, the old HTTP URLs (`http://localhost:8080`) are still available. In most situations one wants these URLs to continue working, but for some to redirect to their HTTPS equivalent.
If you have changed the port that the SSL connector is running on from the preconfigured value of 8443, you must update the `redirectPort` attribute of the standard HTTP connector to reflect the new SSL port. Tomcat needs this information to know which port to redirect to when an incoming request needs to be secure.

If security is a concern, we recommend using SSL encryption site wide, for the reasons listed here: CONF-4116. To do this:

Edit the `confluence/WEB-INF/web.xml` file and add the following declaration to the end, before the `</web-app>` tag:

```xml
<security-constraint>
  <web-resource-collection>
    <web-resource-name>Restricted URLs</web-resource-name>
    <url-pattern>/</url-pattern>
  </web-resource-collection>
  <user-data-constraint>
    <transport-guarantee>CONFIDENTIAL</transport-guarantee>
  </user-data-constraint>
</security-constraint>
```

Once this change is made, restart Confluence and access `http://localhost:8080`. You should be redirected to `https://localhost:8443/login.action`.

If you’d like to protect `login.action` only:

Please note that redirecting `login.action` only will leave the rest of the site open to http connections, but will not redirect the user back to http once they’re on https. To do that, you’ll need to add a rewrite rule in Apache or IIS.

```xml
<security-constraint>
  <web-resource-collection>
    <web-resource-name>Login and Restricted Space URLs</web-resource-name>
    <url-pattern>/login.action</url-pattern>
  </web-resource-collection>
  <user-data-constraint>
    <transport-guarantee>CONFIDENTIAL</transport-guarantee>
  </user-data-constraint>
</security-constraint>
```

Note that the example above specifies a `url-pattern` for the login URL `/login.action`. This means that whenever a user tries to access the unprotected version of the login page, they will be redirected automatically to the secured version of it.

If you want to protect individual spaces, there isn’t a complete way of doing this at the moment. You can add a pattern like this:

```xml
<security-constraint>
  <web-resource-collection>
    <web-resource-name>Login and Restricted Space URLs</web-resource-name>
    <url-pattern>/login.action</url-pattern>
    <url-pattern>/display/SALARIES/*</url-pattern>
  </web-resource-collection>
  <user-data-constraint>
    <transport-guarantee>CONFIDENTIAL</transport-guarantee>
  </user-data-constraint>
</security-constraint>
```

Troubleshooting

Check the Confluence Knowledge Base articles at Troubleshooting SSL.

Anonymous Access to Remote API

Sites may wish to disable anonymous access to the remote API to make it harder for malicious users to write 'bots' that perform bulk changes to the site. If you wish to enable the Remote APIs but do not want anonymous users to access Confluence remotely, you can disable anonymous access from the Administration Console.

To disable anonymous access to Remote APIs,
1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
2. Select ‘General Configuration’ in the left panel.
3. Click ‘Edit’ at the bottom of the ‘Options and Settings’ screen.
5. ‘Save’ your changes.

**RELATED TOPICS**

- Hiding external referrers
- Anonymous Access to Remote API
- Enabling or Disabling Public Signup
- Ignoring External Referrers
- User Email Visibility
- Excluding external referrers
- Managing External Referrers
- Hiding External Links From Search Engines
- Hiding the People Directory
- Adding SSL for Secure Logins and Page Security
- Spam Prevention via Captcha

**Confluence Cookies**

Confluence uses Seraph, an open source framework, for HTTP cookie authentication.

**Cookies**

Confluence uses two cookies. The first, a JSESSIONID cookie, is created by the Application Server and used for session tracking purposes. The second, the ‘Remember my login on this computer’ cookie, is generated by Confluence when the user selects the check-box on the log-in page.
Safe Information Transit

The cookie information is always encoded by the server before it is given to a client. A cookie that has been tampered with will be considered to be not valid.

Session and Cookie Logic

Essentially, the cookie contains encrypted username and the user's password. To be more precise confluence uses PBE (password based encryption) with MD5 and DES, where password(also known as 'private key') is configurable in the seraph.xml file. The user's password in the cookie is necessary to ensure that the cookie is no longer valid if the user changes their password. The username must be retrievable by the server to identify the user solely from the cookie, which is what the ‘Remember my login on this computer’ feature does.

Is it Possible to Disable the ‘Remember my login on this computer’ Feature?

At the moment there is no available option for disabling "Remember My Login on this computer” feature via the Admin console. See the workaround here.

The user login Auto Completion functionality is a browser feature, and there is nothing Confluence can enable or disable.

RELATED TOPICS

- Confluence Permissions Architecture
- How do I tell if a user has permission to...?
- Confluence Security Advisory 2006-01-23
- Revoking Space Permissions
- Assigning Space Permissions
- Hiding the People Directory
- Anti-XSS documentation
Enabling or Disabling Public Signup

Enabling 'Public Signup' allows users to sign themselves up to the site.

If you want to restrict your site to a particular set of users, you may want to disable 'Public Signup'. In this instance, administrators can add new users from the Administration Console.

To enable or disable public signup,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'General Configuration' in the left-hand panel.
3. This will display the 'General Configuration' screen. Click 'Edit'.
4. Beside 'Public Signup', select 'On' to enable Public Signup. Select 'Off' to disable it.
5. Click 'Save'.

RELATED TOPICS

Disabling the Built-In User Management
User Management
Security

Hiding External Links From Search Engines

Hiding external links from search engines helps to discourage spammers from posting links on your site. If you turn this option on, any URLs inserted in pages and comments will be given the 'nofollow' attribute, which prevents search engines from following them.

Shortcut links (e.g. CONF-2622@JIRA) and internal links to other pages within Confluence are not tagged.

To hide external links from search engines,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'General Configuration' in the left panel.
3. This will display the 'General Configuration' screen. Click 'Edit'.
4. Select 'On' beside 'Hide External Links From Search Engines'.
5. 'Save' your changes.

Background to the nofollow attribute

As part of the effort to combat the spamming of wikis and blogs (Confluence being both), Google came up with some markup which instructs search engines not to follow links. By removing the main benefit of wiki-spamming it's hoped that the practice will stop being cost-effective and eventually die out.
Hiding the People Directory

The People Directory provides a list of all users in your Confluence system.

If you need to disable the People Directory set the following system properties on your application server command line:

- **To disable the People Directory for anonymous users,**

  -Dconfluence.disable.peopledirectory.anonymous=true

- **To disable the People Directory entirely,**

  -Dconfluence.disable.peopledirectory.all=true

To remove the link on the dashboard:

This only applies to Confluence 2.5.2 to 2.9.x. Confluence 2.10.x or later only needs to configure system properties using the above. Edit the `<confluence-install>/confluence/decorators/global.vmd`:

Comment out line 37:

```<!!--                    <img src="$req.contextPath/images/icons/people_directory_32.gif" align='absmiddle' height="32" width="32"> <b><a class="fontSizeDefault" href="$req.contextPath/peopledirectory.action"> $action.getText("people.directory.title")</a></b><span class="smalltext"> - $action.getText("people.directory.description")</span><br> -->```
Excluding external referrers

Managing External Referrers

Hiding External Links From Search Engines

Hiding the People Directory

Adding SSL for Secure Logins and Page Security

Spam Prevention via Captcha

Managing External Referrers

An external referrer is any site that links to your Confluence instance. Each time someone clicks on the external link, your Confluence site can record the click as a referral.

By default, external referrers for a page are listed under 'Hot Referrers' on the 'Info' screen of the page. (See Screenshot 1 below.) Confluence shows a maximum of 10 referrers. If there are more than 10, confluence shows the 10 with the highest number of hits.

Note that you do not need to enable trackback in order to have external referrers enabled.

To manage your external referrers,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select the 'Manage Referrers' option (See Screenshot 2 below.).

The following actions will be available:

- **Record or ignore all external referrers:** By default, Confluence records the number of hits made to a page from the link on the external site. If you turn this option off, Confluence will not record the hits.
- **Show or hide all external referrers:** By default, Confluence lists the external referrers as 'Hot Referrers' on the 'Info' screen of a page, as shown below. If you turn this option off, external referrers will not be listed on the page.
- **Specify which external referrers to exclude:** You can decide which referrers you want to exclude from being displayed on your site.

**Screenshot 1: Hot Referrers showing on a page's Info screen**
Excluding external referrers

An external referrer is any site that links to your Confluence instance. Each time someone clicks on the external link, your Confluence site can record the click as a referral.

You can exclude external referrers to prevent them from being recorded or displayed anywhere on your site. Once you have specified your list of blocked URLs, any incoming links from URLs that match the list will no longer be recorded. Referrer URLs are blocked if they start with any of the URLs in the exclusion list. So http://evilspamsite.blogspot.com will also match http://evilspamsite.blogspot.com/nastypage.html

There are two instances where you may want to do this:

1. If you are running a Confluence installation that is open to public:
   In a site that is open to public, one unfortunate problem is that malicious sites can spam the display of a page's incoming links statistics. This is usually done to get the site's URL to appear in the sidebar. By adding these sites to the 'excluded referrers' list, you can prevent them from being listed on your site.

2. If Confluence is installed on a server with multiple domain names or IP addresses:
   Confluence will consider any URL originating from the domain name where Confluence is installed as an internal link. However, if Confluence is installed on a server with multiple domain names or IP addresses, you will need to add the other domain name prefixes to this list to let Confluence know that any links from these domains should not be considered external links.

You need to be a Confluence administrator and to know the URL of the site to add it to the excluded referrers list.

To add a URL to the excluded referrers list,
1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
2. Select ‘Manage Referrers’ in the left-hand panel.
3. Add the URL to the ‘Excluded External Referrer Prefixes’ section.
   - You must include ‘http://’ at the front of the URL.
   - You can add more than one URL by putting each URL on a new line.

Screenshot: Excluding external referrers

<table>
<thead>
<tr>
<th>Record External Referrers:</th>
<th>On</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Show Referrers in Page Info:</td>
<td>On</td>
<td>Off</td>
</tr>
<tr>
<td>Excluded External Referrer Prefixes:</td>
<td>[Purge All]</td>
<td></td>
</tr>
<tr>
<td><a href="http://www.google.com">http://www.google.com</a></td>
<td>[del]</td>
<td>[purge]</td>
</tr>
<tr>
<td><a href="http://www.yahoo.com">http://www.yahoo.com</a></td>
<td>[del]</td>
<td>[purge]</td>
</tr>
</tbody>
</table>

RELATED TOPICS

- Hiding external referrers
- Anonymous Access to Remote API
- Enabling or Disabling Public Signup
- Ignoring External Referrers
- User Email Visibility
- Excluding external referrers
- Managing External Referrers
- Hiding External Links From Search Engines
- Hiding the People Directory
- Adding SSL for Secure Logins and Page Security
- Spam Prevention via Captcha

Hiding external referrers

By default, Confluence lists the external referrers as ‘Hot Referrers’ on the ‘Info’ screen of a page. If you turn this option off, external referrers will not be listed on the page.

To hide external referrers,
1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Manage Referrers' in the left-hand panel.
3. Click 'Off' beside 'Show Referrers in Page Info'.

Screenshot: Managing external referrers

<table>
<thead>
<tr>
<th>Record External Referrers:</th>
<th>On</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Show Referrers in Page Info:</td>
<td>On</td>
<td>Off</td>
</tr>
<tr>
<td>Excluded External Referrer Prefixes:</td>
<td>Add</td>
<td></td>
</tr>
<tr>
<td>Purge All</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RELATED TOPICS
- Hiding external referrers
- Anonymous Access to Remote API
- Enabling or Disabling Public Signup
- Ignoring External Referrers
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Ignoring External Referrers

An external referrer is any site that links to your Confluence instance. Each time someone clicks on the external link, your Confluence site can record the click as a referral. By default, Confluence records the number of hits made to a page from any link on an external site. If you turn this option off, Confluence will not record the hits.

To ignore external referrers,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Manage Referrers' in the left-hand panel.
3. Click 'Off' beside 'Record External Referrers'.

Screenshot: Managing external referrers
User Email Visibility

Confluence provides three options for email address privacy which can be configured by a Confluence administrator from the Administration Console:

- **Public**: email addresses are displayed publicly.
- **Masked**: email addresses are still displayed publicly, but masked in such a way to make it harder for spam-bots to harvest them.
- **Only visible to site administrators**: only Confluence administrators can see the email addresses. Note that, if you select this option, email addresses will not be available in the 'User Search' popup (e.g. when setting Page Restrictions).

To configure user email visibility,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'General Configuration' in the left-hand panel.
3. This will display the 'General Configuration' screen. Click 'Edit'.
4. Select one of the options next to 'User email visibility': 'public', 'masked', or 'only visible to site administrators'.
5. 'Save' your changes.

Screenshot: email visibility

### RELATED TOPICS

- Hiding external referrers
- Anonymous Access to Remote API
- Enabling or Disabling Public Signup
- Ignoring External Referrers
- User Email Visibility
- Excluding external referrers
- Managing External Referrers
- Hiding External Links From Search Engines
- Hiding the People Directory
- Adding SSL for Secure Logins and Page Security
- Spam Prevention via Captcha
Working with Confluence Logs

On this page:
- Logs Location
- Background
- Finding the Log Configuration File
- Changing the Destination of the Log Files
- Changing the Logging Levels
- Using Some Specific Confluence Logging Options

Logs Location

This section describes Confluence’s default logging behaviour, assuming that you have not changed the destination of the logs. So as to unify logging across different application servers, Confluence uses the `atlassian-confluence.log`, not the application server log, as it’s primary log.

Atlassian Support will almost always ask for the `atlassian-confluence.log` from the `confluence-home/logs` directory. The easiest way to find this location is to look for the ”Confluence Home” setting from Administration > System Information. If you can’t access Administration > System Information, check `<confluence-install>/confluence/WEB-INF/classes/confluence-init.properties` and look for the `confluence.home` setting, then find the logs in that directory.

For **Confluence 2.6.x and earlier**, the default behaviour is:
- For Confluence Standalone, log entries are written to `<confluence_install>/logs`. The main log file is called `atlassian-confluence.log`.
- For Confluence EAR/WAR, log entries are written to the application server logs, i.e. the default log files of the application container.

For **Confluence 2.7.x and later**, both Standalone and EAR/WAR distributions follow the same default behaviour:
- When you start Confluence, log entries will be sent to the application server logs until Confluence has completed its initial bootstrap. Any log entries written to the console will be repeated into the `<confluence-home>/log` described below.
- Once the initial startup sequence is complete, all logging will be to `<confluence-home>/logs/atlassian-confluence.log`. For example: `c:/confluence/data/logs/atlassian-confluence.log`.
  Note that the default location is now the Confluence **home directory** instead of the **application server’s log file**. The home directory is specified in `<confluence-install>/confluence/WEB-INF/classes/confluence-init.properties`.

Background

Confluence uses Apache’s `log4j` logging service. This allows a developer or administrator to control the logging behavior and the log output file by editing a configuration file, without touching the application binary. There are six known `log4j` logging levels.
Finding the Log Configuration File

Confluence’s logging behaviour is defined in the following properties file:
<CONFLUENCE-INSTALL>/confluence/WEB-INF/classes/log4j.properties

This file is a standard log4j configuration file, as described in the Apache log4j documentation.

Changing the Destination of the Log Files

Terminology: In log4j, an output destination is called an ‘appender’.

To change the destination of the log files, you need to stop Confluence and then change the settings in the ‘Logging Location and Appender’ section of the log4j.properties file. The location of this file is described above.

In the standard properties file supplied with Confluence 2.7 and later, you will find entries for two appenders:

- com.atlassian.confluence.logging.ConfluenceHomeLogAppender – This is a custom appender which controls the default logging destination described above. This appender allows the following settings:
  * MaxFileSize
  * MaxBackups

- org.apache.log4j.RollingFileAppender – If you want to log to a different location, uncomment the RollingFileAppender line and change the destination file in the line below it. Comment out the previous lines referring to the ConfluenceHomeLogAppender.

Confluence ships with the full suite of appenders offered by log4j. Read more about appenders in the log4j documentation.

Changing the Logging Levels

See Configuring Logging for instructions on how to change the logging configuration of Confluence.

Using Some Specific Confluence Logging Options

This section contains some pointers to specific log configurations you may need.

Log the Details of SQL Requests made to the Database

You may want to increase Confluence’s logging so that it records individual SQL requests sent to the database. This is useful for troubleshooting specific problems.

You can enable detailed SQL logging in two ways:

- At runtime – see instructions above.
- Via the logging properties file – see the detailed instructions.

Log the Details of Users Viewing/Accessing each Confluence Page

You can configure the log to show which users are accessing which pages in Confluence. This can only be done via the logging properties file – see the detailed instructions.

Where are my Thread Dumps?

Thread dumps are logged to the application server log file.

RELATED TOPICS

- Important Directories and Files
- Enabling detailed SQL logging
- Enabling user access logging
- Generating a Thread Dump
- Enabling Page Request Profiling

log4j Logging Levels

Logging Levels

- DEBUG - designates fine-grained informational events that are most useful to debug an application (what is going on)
- INFO - announcements about the normal operation of the system - scheduled jobs running, services starting and stopping, user-triggered processes and actions
• **WARN** - any condition that, while not an error in itself, may indicate that the system is running sub-optimally

• **ERROR** - a condition that indicates something has gone wrong with the system

• **FATAL** - a condition that indicates something has gone wrong so badly that the system can not recover

• **TRACE** - n/a within Confluence

---

**There are two ways to modify the logging levels, as described in Working with Confluence Logs.**

1. Modifying the runtime log levels via the Administration Console.
2. Manually modifying the `<Confluence-Install>\confluence\WEB-INF\classes\log4j.properties` file.

---

**Default Log Level**

The standard Confluence log level **WARN** is a way for Confluence to communicate with the server administrator. Logging at WARN level and higher should be reserved for situations that require some kind of attention from the server administrator, and for which corrective action is possible.

*Reference*: log4j manual

**User Management**

- Confluence User Management
  - Searching For and Managing Users
  - Adding a Group
  - Adding a New User
  - Adding or Removing Users in Groups
  - Changing Usernames
  - Editing User Details
  - Global Groups Overview
  - Global Permissions Overview
  - Migrating to new User Management
  - Removing a Group
  - Removing a User
  - Setting up Anonymous Access
  - Viewing members of a group
  - How to Improve User Search Performance — If your Confluence instance contains thousands of user accounts and you are experiencing performance issues when searching for users, the following migration guide is for you.
  - Restoring Passwords To Recover Admin User Rights

- Integrating with Crowd

- JIRA User Management
  - Delegate user management to use JIRA logins
  - Revert from JIRA to internal user management

- LDAP User Management
  - Add LDAP Integration
    - Automatically Add LDAP users to the confluence-users Group
    - Customising atlassian-user.xml
    - Migrate to LDAP User Management From OsUser
    - Add LDAP Integration For User Authentication Only
    - atlassian-user.xml reference — || XML tag || Default value || Description |
    - Changes in osuser.xml from 1.0.3a to 1.1.x
    - Configuring multiple LDAP repositories
    - Connect to LDAP, JIRA or Other Services Via SSL
    - Disabling the Built-In User Management
    - Legacy User Management Documentation
    - LDAP Authentication with OSUser
    - Troubleshooting LDAP User Management
    - Troubleshooting the "Not Permitted" Screen under LDAP Integration
  - Migrating users from Confluence to JIRA — There is currently no way to delegate user management from JIRA to Confluence. So, if you are in a situation where your users are defined in Confluence and would like to take advantage of Confluence's ability to use JIRA user management, you will need to transfer all of your existing Confluence users into JIRA. You can do this manually, or if you have a large number of users, you can use the attached XML-RPC script.
  - Requesting External User Management Support
    - Paddle

- Understanding User Management in Confluence

- User Management Frequently Asked Questions
Confluence User Management

- Searching For and Managing Users
- Adding a Group
- Adding a New User
- Adding or Removing Users in Groups
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- Viewing members of a group
- How to Improve User Search Performance
- Restoring Passwords To Recover Admin User Rights

Searching For and Managing Users

If you are a Confluence Administrator, you can add users, assign them to groups and edit their user details.

On this page:

- Accessing the User Management Screen
- Listing All Users
- Using the Simple User Search
- Using the Advanced User Search

**Accessing the User Management Screen**

To search for and manage users,

1. Go to the user management screen for the user concerned. There are two ways to do this:
   - Either,
     - Go to the user's Profile and click the 'Administer User' link on the user's profile screen. (This link is available in Confluence 2.8.2 and later.)
   - Or,
     - Go to the Confluence 'Administration Console'. To do this:
       - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
       - Select 'Manage Users' in the left-hand panel.
       - The 'Manage Users' screen appears, as shown below. You can now choose to list all users or you can search for a specific user.

**Screenshot: Manage users**

**Listing All Users**

To list all users,
1. Open the 'Manage Users' screen as described above.
2. Click the 'Show all users' link. All members of the confluence-users group are listed in alphabetical order, by username. If there are more users than can fit on one page, the results will be divided into multiple pages.
3. To move to another page of results, click the numbered links, 'Next' or 'Previous' near the top or bottom of the page.
4. To specify how many results should be shown per page, click a number '10', '20', '50' or '100' near the top of the page.

**Screenshot: List all users**

---

**Using the Simple User Search**

**Crowd and the User Search**

If you are using Atlassian's Crowd for user management, you will need Crowd 1.5.1 or later to use the 'Simple' option in the user search. If your version of Crowd does not support the simple user search, you will see only the 'Advanced' search form.

To search for a specific user via the simple user search,

1. Open the 'Manage Users' screen as described above.
2. If the 'Simple' link is showing, click it. (If you see the 'Advanced' link and no 'Simple' link, then you're fine. The simple search is already active.)
3. The simple user search screen will appear, as shown below.
4. Type some information about the user into the 'Search' textbox. You can type all or part of their username, full name or email address.
5. Click the 'Search' button.
6. Confluence will display a list of matching users. Click the link on a username to see and edit the details for that user.

**Screenshot: Simple user search**
Using the Advanced User Search

The advanced user search allows you to specify the field in which your search term appears, i.e. username, full name or email address. You may find this useful if you need to limit the number of users appearing in the search results.

To search via the advanced user search,

1. Open the 'Manage Users' screen as described above.
2. If the 'Advanced' link is showing, click it. (If you see the 'Simple' link and no 'Advanced' link, then you're fine. The advanced search is already active.)
3. The advanced user search screen will appear, as shown below.
4. Complete one or more of the following fields:
   - **User Name** — Enter all or part of the person's username i.e. their login id, e.g. 'joe', or 'bloggs'.
   - **Full Name** — Enter all or part of the person's name, e.g. 'joe bloggs', or 'bloggs', or 'joe'.
   - **E-Mail** — Enter all or part of the person's email address, e.g. 'acme'
5. Click the 'Search' button.
6. Confluence will display a list of matching users. Click the link on a username to see and edit the details for that user.

Screenshots: Advanced user search

RELATED TOPICS
Adding a Group

To add a new group,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Manage Groups' in the left panel.
3. Enter a name for your group in the 'Add Group' input field and click 'Save'.

You are now ready to start adding users to the group.

RELATED TOPICS
- Global Groups Overview
- Viewing members of a group
- Adding or Removing Users in Groups
- Removing a Group
- Searching For and Managing Users

Adding a New User

There are two ways a new user can be added to Confluence:

Public Signup: Enabling public signup from the Administration Console allows users to sign themselves up to the site.

By Confluence Administrators: If you want to restrict your site to a select group of users, you may want to disable 'Public Signup'. In this instance, administrators with Confluence Administrator or System Administrator permissions can add new users from the Administration Console.
To add a new user to Confluence from the Administration Console,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Manage Users' in the left-hand panel.
3. Click the link 'Add new user' at the top of the page.
4. In the form displayed, enter the user's details: username, password, name and email address.
5. Click 'Create' to add the user.

RELATED TOPICS
- Editing User Details
- Global Groups Overview
- Viewing members of a group
- Troubleshooting LDAP User Management
- Enabling or Disabling Public Signup
- Adding or Removing Public Users
- Adding a Group
- Removing a Group
- Searching For and Managing Users
- Adding a New User
- Setting up Anonymous Access
- Changing Usernames
- Disabling the Built-In User Management
- Global Permissions Overview
- Removing a User

SHOWING FIRST 15 OF 16 RESULTS

Adding or Removing Users in Groups

If you are a Confluence Administrator, you can add users and groups, and assign users to groups in order to determine their permissions.

This page tells you how to add a user to a group or remove a user from a group. For an overview of users and groups, please refer to Users and Groups and Confluence User Management.

You can edit group membership in two places:
- From the group management screen.
- From the user management screen for a particular user.

Both methods are described below.

On this page:
- Adding and Removing Members via the Group Management Screen
- Editing Group Membership from the User Management Screen
- A Note about External User Directories

Adding and Removing Members via the Group Management Screen

This is the recommended method, available in Confluence 2.10 and later. It allows you to manage the group membership for a number of users at the same time.

To add members to a group,
1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Manage Groups' in the left-hand panel.
3. The 'Manage Groups' screen appears, showing a list of groups. Select the group to which you want to add users.
4. The 'Group Members' screen appears, showing the users who belong to the selected group. (See screenshot below.)
   - Click the 'Add Members' link.
5. The 'Add Members' screen appears, as shown below. Type in the usernames of the people you want to add to the group. You can also search for and select users by clicking the icon, as described in Searching for Users.
   - Click the 'Add' button to add the member(s) to the group.
6. When you have added the required username(s), click the 'Add' button to add the member(s) to the group.

To remove members from a group,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Manage Groups' in the left-hand panel.
3. The 'Manage Groups' screen appears, showing a list of groups. Select the group from which you want to remove the user.
4. The 'Group Members' screen appears, showing the users who belong to the selected group. (See screenshot below.)
   - Click the 'Remove user from group' icon next to the user whose group membership you want to remove.

**Screenshot: Group Members**

![Group Members: developers](image)

**Screenshot: Add Members**

![Group Members: developers](image)

**Editing Group Membership from the User Management Screen**

You can update a user's group membership from the user management screen. This functionality allows you to update one user at a time.

To add a user to a group or remove a user from a group,
1. Go to the user management screen for the user concerned. There are two ways to do this:
   - Either,
     - Go to the user's Profile and click the 'Administer User' link on the user's profile screen. (This link is available in Confluence 2.8.2 and later.)
   - Or,
     - Go to the Confluence 'Administration Console'. To do this:
       - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
       - Select 'Manage Users' in the left-hand panel.
       - The 'Manage Users' screen appears, as shown below. You can now choose to 'Show all users' or you can search for a specific user by entering all or part of the person's username, full name or email address. (For more details about the user search, see Searching For and Managing Users.)
       - Click the link on the username you want to edit.

2. Now you should be able to see the user's current details, with links allowing you to edit the user's details and groups. See the screenshot showing a user's details below.

3. Click 'Edit Groups'. This will display two lists of groups, as shown in the screenshot below. Update the user's group membership as follows:
   - 'Not a member of groups' — This box shows all groups to which the user does not belong. To add the user to a group, select a group and click 'Join'. Hold the Ctrl key down and click to select more than one group.
   - 'Member of groups' — This box shows all groups to which the user belongs. Select a group and click 'Leave' to remove the user from the group.

---

Screenshot: Manage users

![Manage users screenshot](image)

Screenshot: User details

![User details screenshot](image)

Screenshot: Editing a user's groups

![Editing a user's groups screenshot](image)
### Edit User Groups: jenny

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Not a member of groups</th>
<th>Member of groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>confluence-administrators developers developers-mates</td>
<td>confluence-users</td>
</tr>
</tbody>
</table>

#### A Note about External User Directories

If you are using external user management, you cannot use the Confluence administration screens to add or remove users in external groups, as Confluence access to LDAP and JIRA groups is read only.

If you have Confluence integrated with Crowd and external user management turned off in Confluence, then your group membership changes in Confluence will be passed through to the external directory (e.g., LDAP) managed by Crowd (assuming that Crowd has read-write access to the directory).

**RELATED TOPICS**

- Editing User Details
- Global Groups Overview
- Viewing members of a group
- Troubleshooting LDAP User Management
- Enabling or Disabling Public Signup
- Adding or Removing Users in Groups
- Adding a Group
- Removing a Group
- Searching For and Managing Users
- Adding a New User
- Setting up Anonymous Access
- Changing Usernames
- Disabling the Built-In User Management
- Global Permissions Overview
- Removing a User
- Security Overview

### Changing Usernames

A **username** is the name used to log into Confluence, e.g., jsmith.
Currently, there is no straightforward method for changing a username and its associated content, to that of another user. The only practicable method currently available is to execute direct SQL queries on your database. There is a feature request to facilitate this process via a web interface and you can vote for it to improve its chances of being implemented. Be aware, however, that no matter what method you use to change usernames in Confluence, there is no support provided for this process. The instructions below provide suggested guidelines on how to change a username via SQL queries, although this may vary depending on your database.

Instructions For Changing Usernames

The following SQL commands are only tested for MYSQL and POSTGRES Databases. If you have any other database please contact your DBA to determine the equivalent queries.

Usernames can only be changed through direct update to the Confluence database.

1. If you have a database administrator, request that they approve the database-related steps described below
2. If you are using JIRA user management, Revert from JIRA To Internal User Management
3. Backup Confluence
4. Creating a usermigration table:

```sql
create table usermigration
(
    oldusername varchar,
    newusername varchar
)
```

5. Usernames that will be changed must be placed in the usermigration table with their current and planned usernames:

```sql
insert into usermigration (oldusername, newusername)
values ('oldusername', 'newusername');
```

6. If your DB administration tool does not support multiple SQL queries, these must be entered individually.

```sql
update attachments
set creator = newusername from usermigration u
where creator = u.oldusername;

update attachments
set lastmodifier = newusername from usermigration u
where lastmodifier = u.oldusername;

update content
set lastmodifier = newusername from usermigration u
where lastmodifier = u.oldusername;

update content
set creator = newusername from usermigration u
where creator = u.oldusername;

update content
set username = newusername from usermigration u
where username = u.oldusername;

update extrnlks
set creator = newusername from usermigration u
where creator = u.oldusername;

update extrnlks
set lastmodifier = newusername from usermigration u
where lastmodifier = u.oldusername;

update label
set owner = newusername from usermigration u
where owner = u.oldusername;

update content_label
set owner = newusername from usermigration u
where owner = u.oldusername;

update links
set lastmodifier = newusername from usermigration u
where lastmodifier = u.oldusername;
```
If using Confluence 2.1 or newer, run the following command:

```
update links
set creator = newusername from usermigration u
where creator = u.oldusername;
```

```
update notifications
set lastmodifier = newusername from usermigration u
where lastmodifier = u.oldusername;
```

```
update notifications
set creator = newusername from usermigration u
where creator = u.oldusername;
```

```
update pagetemplates
set lastmodifier = newusername from usermigration u
where lastmodifier = u.oldusername;
```

```
update pagetemplates
set creator = newusername from usermigration u
where creator = u.oldusername;
```

```
update spaces
set creator = newusername from usermigration u
where creator = u.oldusername;
```

```
update spaces
set lastmodifier = newusername from usermigration u
where lastmodifier = u.oldusername;
```

```
update spacepermissions
set permusername = newusername from usermigration u
where permusername = u.oldusername;
```

```
update spacepermissions
set creator = newusername from usermigration u
where creator = u.oldusername;
```

```
update spacepermissions
set lastmodifier = newusername from usermigration u
where lastmodifier = u.oldusername;
```

```
update contentlock
set creator = newusername from usermigration u
where creator = u.oldusername;
```

```
update contentlock
set lastmodifier = newusername from usermigration u
where lastmodifier = u.oldusername;
```

```
update os_user
set username = newusername from usermigration u
where username = u.oldusername;
```

```
update trackbacklinks
set creator = newusername from usermigration u
where creator = u.oldusername;
```

```
update trackbacklinks
set lastmodifier = newusername from usermigration u
where lastmodifier = u.oldusername;
```

```
update users
set name = newusername from usermigration u
where name = u.oldusername;
```

```
update spaces
set spacekey = '~newusername'
where spacekey = '~oldusername';
```

```
update content_label
set spacekey = '~newusername'
where spacekey = '~oldusername';
```

```
update bandana
set bandanacontext = '~newusername'
where bandanacontext = '~oldusername';
```

7. If using Confluence 2.1 or newer, run the following command:

```
update users
set name = newusername from usermigration u
where name = u.oldusername;
```

8. Reassign personal spaces and content associated with the old username to the new username. The tilda (~) is required as it is prepended to the space key of all personal spaces.
9. Each username is associated with a full name. For example, username 'jsmith' may have a full name of 'John M Smith'. If this fullname needs to be changed, modify the fullname in the `users` or `os_user` table.

All old usernames in Confluence should now be replaced with the new usernames from the `usermigration` table.

RELATED TOPICS

- Editing User Details
- Global Groups Overview
- Viewing members of a group
- Troubleshooting LDAP User Management
- Enabling or Disabling Public Signup
- Adding or Removing Users in Groups
- Adding a Group
- Removing a Group
- Searching For and Managing Users
- Adding a New User
- Setting up Anonymous Access
- Disabling the Built-In User Management
- Global Permissions Overview
- Removing a User

**Editing User Details**

To update a user's details,

1. First, go to the user management screen for the user concerned. There are two ways to do this:
   - Go to the user's Profile and click the 'Administer User' link on the user's profile screen. (This link is available in Confluence 2.8.2 and later.)
   - Or,
     - Go to the Confluence 'Administration Console'. To do this:
       - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
       - Select the link 'Manage Users' in the left-hand panel.
       - Locate the user by doing a search on the username or the groups to which they belong.
       - Click the user link.

2. Now you should be able to see the user's current details and links allowing you to edit them.
   - **View Profile** — View the user's profile.
   - **Edit Groups** — Add or remove this user from a group.
   - **Edit Details** — Edit the user's name and email address. Changing a user's username is not supported through the application, see Changing Usernames for other solutions.
   - **Set Password** — Edit the user's password details.
   - **Deactivate** — Deactivation is an alternative to removing a user. It is not possible to remove a user if the user is responsible for content on the site. The reason is that Confluence will need the user information to maintain a history of the pages they have updated. In this case, you can deactivate the user so that they can no longer log in to Confluence.
   - **Remove** — You can remove a user permanently if the user has not added or edited any content on the site.

⚠️ **Deactivating users (unavailable)**: This functionality was removed in Confluence 2.1.x. See Removing a User for more information.
There are two special default groups in Confluence:

1. **confluence-administrators**: This is a group of 'super-users' who can access the `Administration Console` and perform site-wide administration. Members of this group can also see all spaces in the Confluence instance. Any user who is a member of this group has site-wide administration powers, regardless of any other setting. The settings on the Global Permissions screen do **not** affect the powers allowed to members of this group.

   There is an outstanding request to remove the 'confluence-administrators' group from a future version of Confluence (see CONF-4616).

2. **confluence-users**: This is the default group for all new users. Permissions you assign to this group will be assigned to all newly signed-up users of Confluence.

**Other user groups**: A Confluence administrator can also group users together into user groups for more convenient administration. Once created, groups become available at the space and page levels to allow for flexible access control. A user in one of these groups will automatically be granted all permissions granted to the group.

**Anonymous users**: Confluence treats all users who do not log in when they access Confluence as being 'anonymous'. You can grant anonymous `Use Confluence` permission via the Global Permissions screen. This will allow non-registered users to access pages and spaces in Confluence. A space administrator can then further control anonymous access per space via the space permissions.

**RELATED TOPICS**
- Editing User Details
- Adding or Removing Users in Groups
- Searching For and Managing Users
- Adding a New User
- Setting up Anonymous Access
- Global Permissions Overview
- Removing a User
- Spam Prevention via Captcha
Global Permissions Overview

Permissions determine the actions which a user is allowed to perform within Confluence. Global permissions are one of the levels of permission provided by Confluence.

In order to assign these permissions, you must already have the global 'Confluence Administrator' or 'System Administrator' permission (described below). You can then assign global permissions to groups, individual users and anonymous users. Further permissions are granted from the space administration screens.

On this page:

- Overview of the Global Permissions
- Comparing the System Administrator with the Confluence Administrator Permission
- Comparing the Administrator Permissions with the confluence-administrators Group
- Updating Global Permissions

Overview of the Global Permissions

Global permissions control access across the whole Confluence site. Here is a list:

<table>
<thead>
<tr>
<th>Global Permission</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can Use</td>
<td>This is the most basic permission that allows users to access the site. Users with this permission count towards the number of users allowed by your license. See the information on removing/deactivating users.</td>
</tr>
<tr>
<td>Attach Files to User Profile</td>
<td>This allows the user to upload files to be stored in their user profile. This feature was made obsolete by the introduction of personal spaces in Confluence 2.2. Hence, this permission is no longer relevant. Attachments can be accessed from a user profile view (for example, an image within the 'About Me' field of a profile view) by attaching these files to a page within that user's personal space and referencing them using appropriate wiki markup code.</td>
</tr>
<tr>
<td>Update User Status</td>
<td>This allows the user to update their user status message, which can be seen on the user's profile, pages in their personal space and on various activity streams accessible to other Confluence users.</td>
</tr>
<tr>
<td>Personal Space</td>
<td>This permission allows the user to create a personal space.</td>
</tr>
<tr>
<td>Create Space(s)</td>
<td>This permission allows users to create new spaces within your Confluence site. When a space is created, the creator automatically has the 'Admin' permission for that space and can perform space-wide administrative functions.</td>
</tr>
<tr>
<td>Confluence Administrator</td>
<td>This permission allows users to access the Administration Console that controls site-wide administrative functions. Users with this permission can perform most, but not all, of the Confluence administrative functions. See the comparison of 'System Administrator' and 'Confluence Administrator' below.</td>
</tr>
<tr>
<td>System Administrator</td>
<td>This permission allows users to access the Administration Console that controls site-wide administrative functions. Users with this permission can perform all the Confluence administrative functions, including the ones which the 'Confluence Administrator' permission does not allow. Users with this permission are listed on the 'Contact Administrators' in the footer throughout the Confluence site. See the comparison of 'System Administrator' and 'Confluence Administrator' below. Refer also to the note about the 'confluence-administrators' group below.</td>
</tr>
</tbody>
</table>

The first system administrator is defined during installation

During the initial configuration of Confluence, the Setup Wizard asks for the username of the System Administrator. This user will have the 'System Administrator' permission and will be a member of the 'confluence-administrators' group.

Comparing the System Administrator with the Confluence Administrator Permission

New with Confluence 2.7 and later comes the ability to have two levels of administrator in Confluence:

- System Administrator – Users with this permission can perform all the Confluence administrative functions, including the ones...
which the 'Confluence Administrator' permission does not allow.
- **Confluence Administrator** – Users with this permission can perform most, but not all, of the Confluence administrative functions.

**Tip:** The two-tier administration is useful when you want to delegate some administrator privileges to project managers or team leaders. You can give 'Confluence Administrator' permission to users who should be able to perform most administrative functions, but should not be able to perform functions that can compromise the security of the Confluence system.

The following functions are excluded from the 'Confluence Administrator' permission:

<table>
<thead>
<tr>
<th>Administration Screen</th>
<th>Excluded Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Configuration</td>
<td>The following functionality is disallowed:</td>
</tr>
<tr>
<td></td>
<td>• Server Base URL</td>
</tr>
<tr>
<td></td>
<td>• Remote API plugin</td>
</tr>
<tr>
<td></td>
<td>• External user management</td>
</tr>
<tr>
<td></td>
<td>• Public Signup</td>
</tr>
<tr>
<td>Daily Backup Admin</td>
<td>This function is disallowed entirely.</td>
</tr>
<tr>
<td>Plugins</td>
<td>This function is disallowed entirely.</td>
</tr>
<tr>
<td>Plugin Repository</td>
<td>This function is disallowed entirely.</td>
</tr>
<tr>
<td>Mail Servers</td>
<td>This function is disallowed entirely.</td>
</tr>
<tr>
<td>User Macros</td>
<td>This function is disallowed entirely.</td>
</tr>
<tr>
<td>Attachment Storage</td>
<td>This function is disallowed entirely.</td>
</tr>
<tr>
<td>Layouts</td>
<td>This function is disallowed entirely.</td>
</tr>
<tr>
<td>Custom HTML</td>
<td>This function is disallowed entirely.</td>
</tr>
<tr>
<td>Backup &amp; Restore</td>
<td>This function is disallowed entirely.</td>
</tr>
<tr>
<td>SnipSnap Import</td>
<td>This function is disallowed entirely.</td>
</tr>
<tr>
<td>Logging and Profiling</td>
<td>This function is disallowed entirely.</td>
</tr>
<tr>
<td>Cluster Configuration</td>
<td>This function is disallowed entirely.</td>
</tr>
</tbody>
</table>

**Comparing the Administrator Permissions with the confluence-administrators Group**

The 'confluence-administrators' group defines a set of 'super-users' who can access the Administration Console and perform site-wide administration. Members of this group can also see all pages and spaces in the Confluence instance except pages for which they are excluded by page restrictions (restrictions can be removed by members of the confluence-administrators group in the Space Admin screen if need be). The settings on the 'Global Permissions' screen do not affect the powers allowed to members of this group.

Granting the 'System Administrator' or 'Confluence Administrator' permission to a user will not automatically grant the user access to all spaces in the site. These permissions will only give access to the Administration Console.

Be aware, however, that users with 'System Administrator' can add themselves to the 'confluence-administrators' group and become a super-user.

**Confluence Administrator permission and confluence-administrators group are not related**

Going by the names, you would think the 'confluence-administrators' group and the 'Confluence Administrator' permission are related – but they are not. To resolve confusion, we want to make explicit that granting a user or group 'Confluence Administrator' permission is not the same as granting them membership to the 'confluence-administrators' group. Granting the 'Confluence Administrator' permission enables access to only a subset of the administrative functions. Granting membership to the 'confluence-administrators' group, on the other hand, gives complete access.

There is an outstanding request to remove the ‘confluence-administrators’ group from a future version of Confluence (see CONF-4616).

Read more about global groups.

**Updating Global Permissions**

To edit the global permissions for a group or user,
1. Go to the Confluence 'Administration Console'. To do this:

   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.

2. Select 'Global Permissions' in the 'Security' section of the left-hand panel.

3. The 'View Global Permissions' screen appears. Click the 'Edit Permissions' button.

4. The 'Edit Global Permissions' screen appears, as shown below. Add or edit group and user permissions as follows:
   - To add permissions for a group:
     a. First add the group to Confluence, if you have not already done so.
     b. Now on the 'Edit Global Permissions' screen, enter the group name in the text box labelled 'Grant browse permission to' in the 'Groups' section. You can click the magnifying glass to search for the group name.
     c. Click the 'Add' button.
     d. The group will appear in the list and you can now edit its permissions.
   - To add permissions for a specific user:
     a. First add the user to Confluence, if you have not already done so.
     b. Consider adding the user to a group and then assigning the permissions to the group, as described above, instead of assigning permissions to the specific user.
     c. To add permissions to a specific user on the 'Edit Global Permissions' screen, enter the username in the text box labelled 'Grant browse permission to' in the 'Individual Users' section. You can click the magnifying glass to search for the username.
     d. Click the 'Add' button.
     e. The username will appear in the list and you can now edit its permissions.

   - To add or edit the permissions for a user or group:
     a. Select the check box under the relevant permission and next to the relevant user/group. A tick in the check box indicates that the permission is granted. Click again to clear the check box and deny the permission.
     b. To allow anonymous access to your Confluence site, select the 'Use Confluence' and 'View User Profile' options in the 'Anonymous Access' section.

   - For more information about these permissions, refer to Setting up Anonymous Access.

   - Click the 'Save All' button to save your changes.

Screenshot: Editing global permissions
About some error messages you may see

In Confluence 2.7.2 and later, Confluence will let you know if there is a problem with some permissions. In rare situations, you may see the following error messages below a permission:

- ‘User/Group not found’ — This message may appear if your LDAP repository is unavailable, or if the user/group has been deleted after the permission was created.
- ‘Case incorrect. Correct case is: xxxxxx’ — This message may appear if the upper/lower case in the permission does not match the case of the username or group name. If you see a number of occurrences of this message, you should consider running the routine supplied to fix the problem.

RELATED TOPICS

- Editing User Details
- Global Groups Overview
- Viewing members of a group
- Troubleshooting LDAP User Management
- Enabling or Disabling Public Signup
- Adding or Removing Users in Groups
- Adding a Group
- Removing a Group
- Searching For and Managing Users
- Adding a New User
- Setting up Anonymous Access
- Changing Usernames
- Disabling the Built-In User Management
- Global Permissions Overview
- Removing a User

Migrating to new User Management

In order to support advanced forms of user management, Confluence now uses the AtlassianUser management framework, which can store users in the database (through Hibernate) instead of delegating the user management to OSuser.

Manual migration no longer required from Confluence 2.7.0

This page describes how to perform a manual migration of your users from OSuser to AtlassianUser. For Confluence 2.7.0 and later, there is no need to perform a manual migration of your users to the AtlassianUser framework. If you are installing Confluence 2.7.0 or later for the first time, you will automatically receive the AtlassianUser framework. If you are upgrading from an earlier version to Confluence 2.7.0 or later and have not changed the default user management configuration, your users will be automatically migrated. Refer to the details in the Confluence 2.7 Upgrade Guide.

If going from OsUser to LDAP, use Migrate to LDAP User Management From OsUser rather than this page. This page is intended for upgrading internal user management repositories.

For Confluence 2.6.x and earlier, Confluence delegates user management to OSuser by default. However, you may wish to migrate your users away from OSuser for one or more of the following reasons:
To remove a group,

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'Manage Groups' in the left panel. A list of all existing groups is displayed along with links to remove them.
3. Click 'Remove' beside the group you want to remove. You will need to confirm your action before the group is deleted.
Removing a User

It is not possible to remove a user if the user is responsible for content on the site (another words, if a user has contributed content. For example, edit, create, or commented within Confluence), because Confluence will need the user information to maintain a history of pages. If you wish to prevent such a user from accessing Confluence, you can deactivate a user so that they can no longer log in to Confluence. Deactivating a user will not remove the content created by them from the site.

You can remove a user if the user has not added or edited any content on the site.

To deactivate or remove a user,

1. First, go to the user management screen for the user concerned. There are two ways to do this:
   - Either,
     - Go to the user's Profile and click the ‘Administer User’ link on the user's profile screen. (This link is available in Confluence 2.8.2 and later.)
   - Or,
     - Go to the Confluence ‘Administration Console’. To do this:
       - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
       - Select ‘Manage Users’ in the left-hand panel.
       - Find the user by searching on the username, full name or email address. You can also click ‘Show all users’ to browse the list of all users.
       - Click the username.
2. Now you should be able to see the user's current details and links allowing you to edit them.
3. Click ‘Remove’ if the user is not responsible for any content on the site.
4. If the user is responsible for content on the site, you will need to deactivate the user (also known as disabling the user):
   - Remove the user from all groups that have the global ‘Can Use’ permission. Click ‘Edit Groups’ to remove the person from the group(s).
   - If the specific user has the global ‘Can Use’ permission, you will also need to remove this permission.

Number of users and your license

The License Details page tells you how many users your Confluence instance is licensed to support, and how many are currently registered. The number of registered users includes only users who have the ‘Can Use’ global permission. Deactivated users, as described above, are not included.

Deactivating users in Confluence 2.0.x and earlier

Earlier Confluence releases provide a ‘Deactivate’ link. If you click this link, the user will be prevented from logging in to the Confluence site. This function was removed from Confluence 2.1.x and later for performance reasons.

Screenshot: Adding and removing users to/from groups
**Not a member of groups:**
- atlassian-developers
- atlassian-partners
- atlassian-staff
- atlassian-training
- bnp-consulting
- bnp-boys
- case-studies
- ctigroup-users

<table>
<thead>
<tr>
<th>Member of groups:</th>
</tr>
</thead>
<tbody>
<tr>
<td>confluence-users</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- Editing User Details
- Global Groups Overview
- Viewing members of a group
- Troubleshooting LDAP User Management
- Enabling or Disabling Public Signup
- Adding or Removing Users in Groups
- Adding a Group
- Removing a Group
- Searching For and Managing Users
- Adding a New User
- Setting up Anonymous Access
- Changing Usernames
- Disabling the Built-In User Management
- Global Permissions Overview
- Removing a User
- Security Overview

**Setting up Anonymous Access**

You can enable anonymous access (also known as public access) to your site by granting the 'Use Confluence' permission to 'Anonymous' users from the 'Administration Console'.

This user category has been created for convenient administration of users who have not logged into the site. Permissions assigned to this group apply to all anonymous users of the site.

To enable public access to your site,
1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
2. Select ‘Global Permissions’ in the left panel.
3. Click ‘Edit Permissions’.
4. In the ‘Anonymous Access’ section, select the ‘can use’ check box to enable basic public access to the content on your site.
5. If you selected the ‘can use’ check box in the previous step and want to allow public access to user profile views, select the check box in the ‘View User Profiles’ section.
   - You cannot grant the ‘View User Profiles’ permission independently of the ‘Use Confluence’ permission.
6. Click the ‘Save All’ button to save your changes.

Once you grant this permission, further permissions can be granted from the space administration screens to control the viewing and editing privileges of anonymous users. See Space Permissions Overview.

To disable public access to your site, clear the ‘can use’ check box. If you also have the ‘View User Profiles’ check box selected, it must be cleared before saving the configuration changes.

RELATED TOPICS

- Editing User Details
- Adding or Removing Users in Groups
- Searching For and Managing Users
- Adding a New User
- Setting up Anonymous Access
- Global Permissions Overview
- Removing a User
- Spam Prevention via Captcha

Viewing members of a group

To view the members of a group,

1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
2. Click ‘Manage Groups’ in the left-hand panel. This will list all the existing groups on the site.
3. Click a group name to display all the users in the group.

RELATED TOPICS

- Global Groups Overview
- Viewing members of a group
- Adding or Removing Users in Groups
- Removing a Group
- Searching For and Managing Users

How to Improve User Search Performance

If your Confluence instance contains thousands of user accounts and you are experiencing performance issues when searching for users, the following migration guide is for you.
Background

In Confluence 2.1, we introduced a new system for user management inside Confluence (atlassian-user) that was more powerful than the previous system (OSUser). However, to avoid potential upgrade issues, we continued to use OSUser when storing users in the local Confluence database.

The native atlassian-user storage format provides much more efficient searching, and greatly improves the performance of user administration and Confluence's 'user picker' pop-up. We plan on migrating all Confluence instances to the new format around version 2.6 or 2.7, but until then Confluence instances with large numbers of users can still take advantage of these performance improvements by performing the migration manually.

Migration procedure

Do not use this procedure if you have LDAP user management enabled.

This guide assumes that you are using Confluence's local users and groups. If you have already configured Confluence for LDAP user/group management and are experiencing user management slowness, please follow the guide for Requesting External User Management Support.

Manual migration no longer required from Confluence 2.7.0

This page describes how to perform a manual migration of your users from OSUser to AtlassianUser. For **Confluence 2.7.0 and later**, there is no need to perform a manual migration of your users to the AtlassianUser framework. If you are installing Confluence 2.7.0 or later for the first time, you will automatically receive the AtlassianUser framework. If you are upgrading from an earlier version to Confluence 2.7.0 or later and have not changed the default user management configuration, your users will be automatically migrated. Refer to the details in the Confluence 2.7 Upgrade Guide.

For details of the procedure, refer to Migrating to new User Management.

Restoring Passwords To Recover Admin User Rights

Use this document if you are unable to login as administrator, to manually replace administrator passwords or give users administration rights.

New Confluence User Management

From Confluence 2.7 onwards the user management is handled by AtlassianUser. Hence in the database, Confluence will refer to 'USERS' table to store and refer to its users. When you imported your backup on upgrade, what should happen is the users in the 'OS_USER' table should get copied into 'USERS' table.

If you are still using OSUser please refer to our older document.

Learn more about the algorithm Confluence is using.

Stage One - Identify Administrator

To find out which usernames have admin privileges, connect to your database using a database admin tool such as DBVisualiser. Please download a database admin tool now if you do not have one installed already. Once installed, connect to your database and retrieve the list of administrator usernames with:

```
select name from users u, local_members l, groups g
where g.groupname = 'confluence-administrators' and g.id=l.groupid and u.id=l.userid;
```

Stage Two - Replace Administrator Password

Confluence does not store passwords in plain text in the database, but uses hashes computed from the original password. You instead cut and a paste a hash, rather than the plain password, over the existing password. Below is the hash for the password admin:

```
x61Ey612K12gpPL56PT9weDnp8o4AV8j8+qx2AuTHdRyY036xxrTTrw10Qq3+4qQyB+XURPWh1ONxp3Y3pB37A==
```

To change the password to admin for a given username:

1. Shutdown Confluence
2. Connect to your database.
3. The SQL to run is:

```sql
update users set password = '{x61Ey612K12gpPL56PT9weDnpSo4AV8j8+qx2AuTHbRyY036xxzTTrw10Kq3+4g0y8+XURPWx10Nxp3Y3p837A=='}
where name = '<USERNAME>'
```

4. Start Confluence
5. Login with your modified username and use password admin

**For the evaluation embedded database**

1. Shut down Confluence.
2. Open `<confluence-home>/database/confluence-db.script`. Search for:

```sql
INSERT INTO USERS VALUES ( ...
```
3. Replace the password for the appropriate user, you can copy and paste the hash value above.
4. Save the file, and restart.

### Integrating with Crowd

Atlassian's Crowd identity management system can be integrated with Confluence. Please refer to the Crowd documentation on **Integrating Crowd with Confluence**.

### JIRA User Management

- Delegate user management to use JIRA logins
  - Revert from JIRA to internal user management

**Additional Information**

- JIRA User Management FAQs

**Delegate user management to use JIRA logins**

If you already have a significant user base set up inside JIRA, it makes sense to connect Confluence to JIRA so that user management is centralised and not duplicated. This document outlines how to delegate Confluence's user authentication and group management to JIRA so that you can use your JIRA users to log in to Confluence.

**Known Issues**

Before attempting the steps below, please refer to the known issues listed in the troubleshooting section below.

**On this page:**

- Read Before Proceeding
- Technical Overview
- Step One: Installing Confluence
- Step Two: Setting up a Datasource to JIRA's Database
- Step Three: Installing the JDBC Driver
- Step Four: Modifying osuser.xml
- Step Five: Customising osuser.xml
- Step Six: Modifying atlassian-user.xml
- Step Seven: Creating Confluence Groups in JIRA
- Step Eight: Activating External User Management

**Read Before Proceeding**

1. The examples used in this document are based on **Tomcat Application Server** and the **MySQL database**. The same concepts (but not the verbatim examples) can be applied to other application servers or databases.
2. If JIRA is using LDAP for authentication, you should not use JIRA for Confluence user management. Use Add LDAP Integration instead.
3. Always install Confluence with a new database. Do not attempt to use the existing JIRA database, with either JDBC or data source.
4. If you have existing users or groups in Confluence, these users will not be available once you switch to using JIRA's user management. Any existing content will no longer be associated with valid users. Do not add any spaces or content once Confluence
installation is complete, apart from verifying that your Confluence instance is up and working, until you have completed the procedure on this page. Users in Confluence will no longer be valid once you switch over to using your JIRA users.

5. If you run into a problem, check the Troubleshooting section below.

Technical Overview

In the configuration described below, Confluence will use JIRA's database for its user and group information. The Confluence application will have two database connections:

1. A connection to the primary database, set up during Confluence installation. This database stores all the normal Confluence data: spaces, pages, comments, etc.
2. A read-only data source connection to JIRA's database, set up after Confluence is installed. Confluence reads information about users and groups from this database.

The reason this works is because both JIRA and Confluence use the same user management library, OSUser. The OSUser database schema is the same in JIRA and Confluence, so Confluence can easily read from JIRA's tables to get the user and group information.

Step One: Installing Confluence

Skip this step if you have already installed Confluence and completed the Setup Wizard.

1. Install Confluence and run the Setup Wizard:
   - If you are running JIRA standalone please follow these instructions for installing Confluence.
   - If you have JIRA deployed under your own Tomcat server, please follow these instructions.
2. Ensure that Confluence is running and has been set up, that is, you have completed the Confluence Setup Wizard and verified that you can create pages.

Step Two: Setting up a Datasource to JIRA's Database

In order to delegate all user authentication attempts and group membership queries to JIRA, Confluence needs to be aware of JIRA's database, and hence the user tables in JIRA's database.

In Tomcat this is achieved by specifying JIRA's database as a resource. You will need to declare it inside the `<context>` descriptor you set up in Step One.

Notes:

- If there is an existing block of `<Resource>` in the `<context>` descriptor, please do not replace it. Rather, just add the following `<Resource>` block inside the `<context>` descriptor.
- If you are running Confluence EAR/WAR distribution separate to JIRA, or under JIRA standalone 3.3 and later, your Confluence context will be in the `confluence.xml` file. If you are running Confluence standalone separate to JIRA, or Confluence WAR/WAR distribution under an older version of JIRA, your Confluence context will be in the `server.xml` file. You should never have a Confluence context in both.
- If you are running Confluence standalone (or Confluence inside a JIRA standalone) and are not sure which version of Tomcat you are using, check your log files. You'll see "INFO: Starting Servlet Engine: Apache Tomcat/5.5.nn" if you are using Tomcat 5.5.
- The DataSource configuration below uses MySQL as an example. You will need to modify these settings according to the database that you are using.
- You should add the appropriate validation check for the connection pool to avoid intermittent problems authenticating.

Sample context descriptor for Tomcat 4.x and 5.0.x

```xml
<Context path="/confluence" docBase="C:/programs/confluence" swallowOutput="true">
  <Resource name="jdbc/JiraDS" auth="Container" type="javax.sql.DataSource"/>
  <ResourceParams name="jdbc/JiraDS">
    <parameter name="username">your_db_username</parameter>
    <parameter name="password">your_db_password</parameter>
    <parameter name="driverClassName">com.mysql.jdbc.Driver</parameter>
    <parameter name="url">jdbc:mysql://your.domain.com/jira_database_name?autoReconnect=true</parameter>
    <parameter name="factory">org.apache.commons.dbcp.BasicDataSourceFactory</parameter>
  </ResourceParams>
</Context>
```
Tomcat 5.5.x

This version of Tomcat has a new syntax for specifying resources. Note that you don't add a new context to server.xml, just add the Resource to your existing Context:

```xml
<Context path="/confluence" docBase="C:/programs/confluence" swallowOutput="true">
  <Resource name="jdbc/JiraDS" auth="Container" type="javax.sql.DataSource"
    username="your_db_username"
    password="your_db_password"
    driverClassName="com.mysql.jdbc.Driver"
    url="jdbc:mysql://your.domain.com/jira_database_name?autoReconnect=true"/>
</Context>
```

Some customers have encountered periodic login failures after delegating user management to JIRA. This usually occurs after a network failure or after the database server reboots. If you do experience such problems after completing this procedure, please refer to Surviving Connection Closures for further information on resolving them. As explained in this document, resolving these issues typically involves adding a validationQuery parameter to your JIRA datasource connection definition (such as the example jdbc/JiraDS definition above).

Step Three: Installing the JDBC Driver

Ensure that your JDBC driver is on the classpath of your application server. In this example, a jar for the mysql driver should be in the .../common/lib folder (or potentially .../lib for Tomcat version 6 and beyond).

1. Download the mysql driver from here.
2. Copy the jar file into the .../common/lib folder (or .../lib).

Step Four: Modifying osuser.xml

Please make sure you have completed the Confluence Setup Wizard before performing this step.

1. Find the osuser.xml file in the /confluence/WEB-INF/classes folder and open it in a text editor. Comment out the following block of code:

```xml
<provider class="bucket.user.providers.CachingCredentialsProvider">
  <property name="chain.classname">
    com.opensymphony.user.provider.hibernate.HibernateCredentialsProvider
  </property>
  <property name="chain.configuration.provider.class">
    com.opensymphony.user.provider.hibernate.HibernateCredentialOptimizerProvider
  </property>
</provider>

<provider class="bucket.user.providers.CachingAccessProvider">
  <property name="chain.classname">
    com.opensymphony.user.provider.hibernate.HibernateAccessProvider
  </property>
  <property name="chain.configuration.provider.class">
    bucket.user.BucketHibernateConfigProvider
  </property>
</provider>

<provider class="bucket.user.providers.CachingProfileProvider">
  <property name="chain.classname">
    com.opensymphony.user.provider.hibernate.HibernateProfileProvider
  </property>
  <property name="chain.configuration.provider.class">
    bucket.user.BucketHibernateConfigProvider
  </property>
</provider>
```

2. Uncomment this block:
<provider class="bucket.user.providers.CachingCredentialsProvider">
  <property name="chain.classname">
    com.atlassian.confluence.user.providers.jira.JiraJdbcCredentialsProvider
  </property>
  <property name="chain.datasource">java:comp/env/jdbc/JiraDS</property>
</provider>

<provider class="bucket.user.providers.CachingAccessProvider">
  <property name="chain.classname">
    com.atlassian.confluence.user.providers.jira.JiraJdbcAccessProvider
  </property>
  <property name="chain.datasource">java:comp/env/jdbc/JiraDS</property>
</provider>

<provider class="bucket.user.providers.CachingProfileProvider">
  <property name="chain.classname">
    com.atlassian.confluence.user.providers.jira.JiraJdbcProfileProvider
  </property>
  <property name="chain.datasource">java:comp/env/jdbc/JiraDS</property>
  <property name="chain.configuration.provider.class">
    bucket.user.BucketHibernateConfigProvider
  </property>
</provider>

Your osuser.xml should now look like this:

<opensymphony-user>
  <!-- Authenticators can take properties just like providers. -->
  <!-- This smart authenticator should work for 'most' cases - it dynamically looks up most appropriate authenticator for the current server. -->
  <!-- JIRA User management (with caching) -->
  <!-- Note: Do not add any line breaks or spaces when specifying the chain.classname, otherwise a ClassNotfoundException will be thrown -->
  <provider class="bucket.user.providers.CachingCredentialsProvider">
    <property name="chain.classname">
      com.atlassian.confluence.user.providers.jira.JiraJdbcCredentialsProvider
    </property>
    <property name="chain.datasource">java:comp/env/jdbc/JiraDS</property>
  </provider>
  <provider class="bucket.user.providers.CachingAccessProvider">
    <property name="chain.classname">
      com.atlassian.confluence.user.providers.jira.JiraJdbcAccessProvider
    </property>
    <property name="chain.datasource">java:comp/env/jdbc/JiraDS</property>
  </provider>
  <provider class="bucket.user.providers.CachingProfileProvider">
    <property name="chain.classname">
      com.atlassian.confluence.user.providers.jira.JiraJdbcProfileProvider
    </property>
    <property name="chain.datasource">java:comp/env/jdbc/JiraDS</property>
    <property name="chain.configuration.provider.class">
      bucket.user.BucketHibernateConfigProvider
    </property>
  </provider>
  <!--
  <provider class="com.opensymphony.user.provider.hibernate.HibernateCredentialsProvider">
    <property name="chain.classname">
      com.opensymphony.user.provider.hibernate.HibernateCredentialsProvider
    </property>
    <property name="chain.configuration.provider.class">
      bucket.user.BucketHibernateConfigProvider
    </property>
  </provider>
  <provider class="com.opensymphony.user.provider.hibernate.HibernateAccessProvider">
    <property name="chain.classname">
      com.opensymphony.user.provider.hibernate.HibernateAccessProvider
    </property>
    <property name="chain.configuration.provider.class">
      bucket.user.BucketHibernateConfigProvider
    </property>
  </provider>
  <provider class="com.opensymphony.user.provider.hibernate.HibernateProfileProvider">
    <property name="chain.classname">
      com.opensymphony.user.provider.hibernate.HibernateProfileProvider
    </property>
    <property name="chain.configuration.provider.class">
      bucket.user.BucketHibernateConfigProvider
    </property>
  </provider>
  -->
  <!--
  <provider class="com.opensymphony.user.provider.memory.MemoryCredentialsProvider"/>
  <provider class="com.opensymphony.user.provider.memory.MemoryAccessProvider"/>
  <provider class="com.opensymphony.user.provider.memory.MemoryProfileProvider"/>
  -->
</opensymphony-user>

In this example, JiraDS is the name of the JIRA datasource you are sharing with Confluence. If you have changed the name in Step Two of this documentation, you will need change all occurrences of the value here too.
You can also download the already configured file here.

**Step Five: Customising osuser.xml**

In some cases you may need to customise the behaviour of the JiraJdbc classes. You can do this by setting properties within the osuser.xml file.

This process is documented here.

**Step Six: Modifying atlassian-user.xml**

⚠️ This step is only applicable for Confluence 2.7 and later.

Please comment out or remove the following line from your
<Confluence-Install>/confluence/WEB-INF/classes/atlassian-user.xml file:

```xml
<hibernate name="Hibernate Repository" key="hibernateRepository" description="Hibernate Repository" cache="true"/>
```

and add this line instead:

```xml
<osuser name="OSUser Repository" key="osuserRepository"/>
```

**Step Seven: Creating Confluence Groups in JIRA**

1. Add the confluence-users and confluence-administrators groups in JIRA.
2. Add yourself to both these groups.
3. To give your existing JIRA users access to Confluence, you have two options.
   - Option 1: Manually edit the groups of these users inside JIRA and give them membership to one or both of these confluence groups.
   - Option 2: Start up Confluence. Log in using your JIRA account and go to Administration and then Global Permissions. Now assign the 'can use' permission to your desired JIRA groups.

⚠️ In order to use Confluence, users must be a member of the confluence-users group (or have Confluence 'can use' permission).

**Step Eight: Activating External User Management**

Since user management is now conducted in JIRA and outside of Confluence, you will need to switch external user management on.

⚠️ Activating external user management will remove user and group management options from Confluence. Your users will also no longer be able to edit their full name or email address inside Confluence. (If they want to, they would have to do so in JIRA).

To switch external user management on:

1. Log into Confluence using your JIRA account.
2. Go to the Administration Console and click General Configuration in the left-hand panel
3. Click 'Edit' at the bottom of the 'Options and Settings' screen.
4. Select 'ON' beside 'External User Management'.

For troubleshooting, see the JIRA Integration FAQ.

RELATED TOPICS

- Logins fail periodically when delegating user management to JIRA
- Revert from JIRA to internal user management
- Delegate user management to use JIRA logins
- Migrating users from Confluence to JIRA
Revert from JIRA to internal user management

Check out Crowd for a fully featured user management solution.

Administrators can revert a Confluence instance that uses JIRA for user management back to internal user management. With few users, it is easier to manually recreate the JIRA users and groups in Confluence. For more users, migrate JIRA users and groups into the Confluence database instead.

Option A - Manually Recreate Users In Confluence

This option is too time consuming for hundreds or thousands of users. After completing the reversion, links to users who created or updated Confluence content may go to error screens.

To manually recreate the users, you must first have an instance of Confluence with internal user management and your data.

- If you have made limited customisations to Confluence and migrating would be desirable - follow the upgrade guide and import your data to a new installation.
- Alternatively, if you have made extensive customisations or do not wish to migrate - go to delegating user management to JIRA and remove your JIRA user management by undoing the instructions in reverse order. These steps are specific to your instance so cannot be covered here.

Then manually create JIRA’s groups and users in Confluence. If you have assigned permissions in Confluence to a group which exists in JIRA, you must create a group in Confluence with the same name. If a user who exists in JIRA has created content or has had permissions assigned to them, you must also create that user in Confluence.

Option B - Transfer JIRA Users & Groups To Confluence

This option manually migrates JIRA users into the Confluence database, but requires knowledge of SQL.

Users not using mySQL

Users of non-mySQL databases must be experienced enough to modify the SQL to work in their database as examples are provided for mySQL only. If you adapt the SQL to another database, please consider posting the SQL you used to the comments.

Users of Confluence 2.0 or older

Pre-Confluence 2.0 users may need to modify the instructions to your older schema, or upgrade Confluence. For example, on Confluence 2.1.5 and older, SQL references to the property table must be updated to be called OS_PROPERTYENTRY in all upper-case.

Stage One - Create Backups

Creating backups is the only way to restore your data if something goes wrong.

1. From Confluence, create a full XML backup including attachments.
2. Stop Confluence.
3. Take a backup copy of the Confluence home and install directories.
4. Repeat the above steps for JIRA.
5. From your mySQL admin tool, create a database backup for the JIRA and Confluence databases.

Stage Two - Replace Confluence User Management

Replace the Confluence user and group permissions with JIRA by transferring table content. The SQL provided is specific to mySQL and must be modified for other databases. For each SQL statement, do a find and replace on the JIRA and Confluence table names to your table names. In the examples, they are called confluence224 and jira364.

1. Login to a DBA tool that can execute SQL on your DB.
2. Erase user and group content from the Confluence DB:
3. Copy JIRA's groupbase table into Confluence's os_group table:

```sql
insert into confluence224.os_group (id, groupname)
select * from jira364.groupbase;
```

4. Copy JIRA's userbase table into Confluence's os_user table:

```sql
insert into confluence224.os_user (id, username, passwd)
select * from jira364.userbase;
```

5. Copy JIRA's membershipbase table into Confluence's os_user_group table.

```sql
insert into confluence224.os_user_group (group_id, user_id)
select distinct groupbase.id as "group_id", userbase.id as "user_id"
from jira364.groupbase, jira364.membershipbase, jira364.userbase
where membershipbase.user_name = userbase.username and membershipbase.group_name =
groupbase.groupname;
```

6. Merge relevant content from JIRA's propertyentry and propertystring tables into Confluence's os_propertyentry table. Some versions of SQL use "0" instead of "false" for boolean values.

```sql
insert into confluence224.os_propertyentry (entity_name, entity_id, entity_key, key_type,
boolean_val, double_val, string_val, text_val, long_val, int_val, date_val)
select 'OSUser_user', propertyentry.entity_id, propertyentry.property_key, 5,
false, 0, '', 0, 0, null
from jira364.propertyentry, jira364.propertystring
where propertyentry.entity_name='OSUser' and propertyentry.id=propertystring.id;
```

**Stage Three - Revert To Local Management**

- If you have made limited customisations to Confluence and migrating would be desirable - Install a new instance of Confluence using the upgrade guide.
- Alternatively, if you have made extensive customisations or do not wish to migrate - go to Delegating User Management to JIRA and remove your JIRA user management by undoing the instructions in reverse order. These steps are specific to your instance so cannot be covered here.
- If you wish to migrate to LDAP user management at this point, you can follow the instructions to Migrate to LDAP User Management From OsUser.

Done! Note that the original administrator may not display their groups correctly, however their groups are still present.

**LDAP User Management**

**Overview**

Confluence integrates with LDAP user repositories in a variety of ways. Start with the Overview of external user management to learn more, then choose your preferred LDAP connectivity.

There are three choices for LDAP integration:

<table>
<thead>
<tr>
<th>LDAP Configuration</th>
<th>Internal Users</th>
<th>Internal Groups</th>
<th>LDAP Authentication</th>
<th>LDAP Users</th>
<th>LDAP Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDAP for Authentication Only</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✗</td>
</tr>
<tr>
<td>LDAP for Group and User Management</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>LDAP Authentication with OSUser (not supported after 2.7)</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

In addition to these three options, you may also choose to delegate user management to JIRA or use Crowd for a full-featured solution for multiple applications, directories, and single signon. JIRA user management is a good solution if you already manage users in JIRA.
Confluence 3.0 Documentation

## Additional Information

- Help with troubleshooting external user management
- LDAP FAQ

Check the listing of children pages below for other useful resources.

### Add LDAP Integration

**Try Atlassian Crowd for powerful LDAP integration**

Atlassian's Crowd is a web-based single sign-on (SSO) tool that simplifies application provisioning and identity management.

Confluence can delegate user authentication to LDAP and use LDAP group memberships to set the user's Confluence access permissions. This also allows Active Directory (AD) integration. This guide is for both users enabling LDAP, and those upgrading their LDAP scheme to support group management. It applies to LDAP over HTTP and SSL/HTTPS.

Once the LDAP is enabled and LDAP users are using Confluence, you cannot revert to local user management without those users being disabled. However, you can create new local users while using LDAP integration.

### Who is this guide for?

If you are using local user management in a version prior to Confluence 2.7, or os_user with authentication-only or jira user management, follow the guide to **Migrate to LDAP User Management From OsUser**. Otherwise, this is the correct guide for you.

**Integrate only after completing Setup**

If you are doing an LDAP integration as part of a new install, do not integrate until after you complete the initial setup. You can add LDAP integration after you create the admin user for your instance.

### Step 1 - Upgrade Confluence

Please check that you are running the latest version of Confluence. If not, we strongly recommend that you consider upgrading Confluence according to this guide. Confirm that you have upgraded successfully before trying to add LDAP to the new version.

### Step 2 - Contact your LDAP/AD Administrator

Integration can only be setup by an administrator confident with running user queries against their LDAP directory. You should request assistance from your LDAP or Active Directory administrator for the following steps.

### Step 3 - Check your LDAP server

Confirm this information about your LDAP server.

1. Check your server LDAP version. Supported versions are v2 and v3. Supported LDAP servers include OpenLDAP, Microsoft Active Directory, Novell eDirectory, and any server that uses Java JNDI-LDAP mapping.

2. Your LDAP or Active Directory server must support static groups. This means that the user DNs must be stored against a membership attribute inside an LDAP groups. An example of a static group is shown below:

   ```
   Dn: CN=Sales and Marketing,CN=Users,DC=ad,DC=atlassian,DC=com
   objectClass: top; group;
   cn: Sales and Marketing;
   distinguishedName: CN=Sales and Marketing,CN=Users,DC=ad,DC=atlassian,DC=com;
   name: Sales and Marketing;
   ...
   member: CN=John Smith,CN=Users,DC=ad,DC=atlassian,DC=com
   member: CN=Sally Smith,CN=Users,DC=ad,DC=atlassian,DC=com
   ...
   <useUnqualifiedUsernameForMembershipComparison>true</useUnqualifiedUsernameForMembershipComparison>
   ```

   The membership attribute in this case is `member`, but this is not required. Note that the full DNs of *John and Sally Smith* are listed. If the values against `member` are not full DNs, but are just usernames, then you need to add the flag

   ```
   <useUnqualifiedUsernameForMembershipComparison>true</useUnqualifiedUsernameForMembershipComparison>
   ```

   to your LDAP tag in `atlassian-user.xml`. Open Directory on OS X uses this configuration.

3. You must not have LDAP groups called 'confluence-users' or 'confluence-administrators'.

4. You must have at least one existing Confluence administrator with System Administrator permissions, whose username does not exist in the LDAP server (see Step 4).
Step 4 - Check the System Administrator account

This step assumes that you have at least one Confluence user account which has System Administrator permissions for your Confluence site. For this account, please check that there isn’t an account on your LDAP system that has the exact same username.

If there is an LDAP account with the exact same username, and you do not have another local Confluence account that has System Administrator permissions, then you should perform one of the following:

- create another account, that doesn’t exist on LDAP, to act as the administrator
- rename your local Confluence administrator account to use another username that doesn’t exist in LDAP
- rename your LDAP account

This will ensure that you will have an account that has sufficient rights to administer your site after you migrate your users.

Step 5 - Configure your LDAP repository

1. Follow Customising atlassian-user.xml
2. Start up Confluence and check that you can log in using the System Administrator account you first set up when running through the Confluence Setup Wizard. If not, re-examine your steps and repeat where necessary.
3. If you can’t successfully log in with this account, please check that the username of this account does not already exist in your LDAP server. If usernames are the same, Confluence recognises LDAP accounts over local Confluence accounts.
4. If you were using OS user previously, run the user migration. After the migration has run, remove the os user tag from atlassian-user.xml and restart Confluence.

Step 6 - Grant access to LDAP users and groups

To grant Confluence login access to your LDAP groups and users,

1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
2. Select ‘Global Permissions’ in the left panel.
3. Click to Edit Permissions for Groups.
4. In the textbox to ‘Grant Browse Permission’, enter the name of an LDAP group that should have Confluence access. Click ‘Add’.
5. Tick the Can Use box for the LDAP group. If the group is not found, it was not present in your LDAP server.
6. For other LDAP groups that need access to Confluence, add them using the same method.
7. If you are integrating LDAP with Confluence for authentication only, no LDAP groups will appear in Confluence. All the individual LDAP users will have to be manually added to an internal Confluence group with Can Use permissions enabled before they can have access to Confluence.
8. Set up your Confluence page and space permissions for these LDAP groups and users.

Installation complete!

Related Pages

- Confluence LDAP Documentation Index

Troubleshooting

Local user management not retained

If you run into this problem, you may be experiencing this bug.

Check your Confluence version

This documentation applies to the latest version of Confluence. There are a couple of key bugs that have been resolved in Confluence 2.6 or 2.6.1, but that pertain to 2.5.6 and 2.5.7.

1. http://jira.atlassian.com/browse/CONF-9434 relates to hibernate cache=true; The xml file supplied here has the hibernate cache set to "true".

More information

- Browse the LDAP FAQ.
- If LDAP users or groups are not displayed in Confluence, try the External User Test tool.
- Check the list of known, unresolved LDAP bugs
- See the comments on this page, from other users who may have left some useful information.
- The ‘External User Management’ setting in the Confluence Administration Console should be set to OFF. This setting is for using JIRA or Crowd for External User Management.

Support
Failing all else, lodge a support request. Be sure to attach your atlassian-user.xml, a copy of the output from the External User Test tool, and a zip of your Confluence logs.

**Automatically Add LDAP users to the confluence-users Group**

This documentation guides you to use an Authenticator that adds LDAP users to confluence-users as they log in.

To use this Authenticator, change the line:

```xml
<authenticator class="com.atlassian.confluence.user.ConfluenceAuthenticator"/>
```

in `<Confluence-Install directory>/confluence/WEB-INF/classes/seraph-config.xml` to:

```xml
<authenticator class="com.atlassian.confluence.user.ConfluenceGroupJoiningAuthenticator"/>
```

As of Confluence 2.2 and later, there is no need to download the class files attached to this page. The change in seraph-config.xml is sufficient.

If experiencing performance problems when logging in, it may be due to CONF-13754. You can add the files ConfluenceGroupJoiningAuthenticator.class and ConfluenceGroupJoiningAuthenticator$1.class file and put it in `<confluence-installation-directory>/confluence/WEB-INF/classes/com/atlassian/confluence/user`. This will override the built-in version of ConfluenceGroupJoiningAuthenticator in Confluence 3.0.1 and earlier versions of Confluence.

**Customising atlassian-user.xml**

The LDAP server connection is specified by manually editing the file atlassian-user.xml. Confluence 2.3 onwards supports multiple LDAP servers by repeating the instructions below for each server so that there are multiple repositories defined.

**Stage 1 - Determine if you are migrating from os_user or atlassian_user**

Check your current `.../confluence/WEB-INF/classes/atlassian-user.xml` file. If your os user tag is active, you're using os user in some fashion. Make sure to run the user migration after doing your LDAP details, as described in Migrating to new User Management.

**Stage 2 - Configure Connection Details**

To make life easier, use Paddle and Apache Directory Studio to test your LDAP connections without restarting Confluence.

1. Edit the file `.../confluence/WEB-INF/classes/atlassian-user.xml` and configure the connection for either AD or LDAP.
   - Connections in Active Directory
   - Connections in other LDAP servers
2. If your Active Directory Server allows anonymous searches, then you do not need to specify a securityPrincipal and securityCredential at all. For an example of how you would configure Confluence to allow anonymous authentication, see Enable Anonymous Authentication in LDAP or Active Directory
3. To connect to LDAP over SSL, see Connect to LDAP via SSL
4. Check your configuration against the example connection details shown below.

If you change your ldap key to a different name, you will need to change the cache name to pick it up. This is described in CONFKB181536872.
Stage 3 - Map LDAP Data Tree

1. Configuring the mappings in `atlassian-user.xml` for either AD or LDAP.
   - Mapping Active Directory
   - Mapping other LDAP servers

2. Check your configuration against the example connection details shown below.

```xml
<ldap key="ldapRepository" name="LDAP Repository@hecate.atlassian.com" cache="true">
  <host>hecate.atlassian.com</host>
  <port>389</port>
  <securityPrincipal>cn=admin,dc=atlassian,dc=private</securityPrincipal>
  <securityCredential>secret</securityCredential>
  <securityProtocol>plain</securityProtocol>
  <securityAuthentication>simple</securityAuthentication>
  <baseContext>dc=atlassian,dc=private</baseContext>
</ldap>
```

Stage 4 - Directory Search Depth Settings

These are the default settings:

```xml
...<userSearchAllDepths>false</userSearchAllDepths> <groupSearchAllDepths>false</groupSearchAllDepths>
```

The above settings configure the search depth on users and groups. If you set either attribute to:

- **false** - Confluence will search only for users/groups directly defined in `<baseUserNamespace>` and `<baseGroupNamespace>`. For example, if your users are distributed across multiple namespaces, you should set this option to **true**.
- **true** - Confluence will search for users/groups defined in the above namespaces and also in namespaces nested within them. Setting the value to true may have a high cost in performance for large directories, because Confluence will search the whole tree and not just the immediate namespace.

Stage 5 - Optional LDAP Settings

The following settings are the default values for all the options under `<ldap>` in the `atlassian-user.xml` file. Some of them do not appear in the file normally, but can be added if you need to customise them:

<table>
<thead>
<tr>
<th>XML tag</th>
<th>Default value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LDAP connection properties</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><code>securityProtocol</code></td>
<td>plain ssl</td>
<td>Allow encrypted (SSL) connections. Can be omitted if anonymous access is available.</td>
</tr>
<tr>
<td><code>authentication</code></td>
<td>simple</td>
<td>Plain-text password transmission. Can be 'none' if anonymous access to the LDAP server is available.</td>
</tr>
<tr>
<td><code>initialContextFactory</code></td>
<td>com.sun.jndi.ldap.LdapCtxFactory</td>
<td>Class name of LDAP provider (default: Sun JNDI)</td>
</tr>
<tr>
<td><code>batchSize</code></td>
<td>100</td>
<td>Size of pages in search results</td>
</tr>
<tr>
<td><code>poolingOn</code></td>
<td>true</td>
<td>Use connection pooling</td>
</tr>
</tbody>
</table>
connectTimeout 30000 Timeout in milliseconds when opening new server connections. Default: 30 seconds.

readTimeout 60000 Timeout in milliseconds for search and other read operations. Default: 60 seconds.

**LDAP connection pool properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>initSize</td>
<td>1</td>
<td>Initial size of connection pool, e.g. number of connections to open at start-up. [1]</td>
</tr>
<tr>
<td>prefSize</td>
<td>10</td>
<td>Preferred size of connection pool. [1]</td>
</tr>
<tr>
<td>maxSize</td>
<td>0</td>
<td>Maximum size of connection pool. Zero means no maximum size. [1]</td>
</tr>
<tr>
<td>timeout</td>
<td>30000</td>
<td>Idle time in milliseconds for a connection before it is removed from the pool. Default: 5 minutes. [1]</td>
</tr>
<tr>
<td>debugLevel</td>
<td>none</td>
<td>Debug level for logging. [1]</td>
</tr>
<tr>
<td>poolAuthentication</td>
<td>simple</td>
<td>Authentication for pool connections. [1]</td>
</tr>
</tbody>
</table>

**LDAP search properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>timeToLive</td>
<td>0</td>
<td>Time limit on searches in milliseconds. Zero means no limit. [2]</td>
</tr>
<tr>
<td>userSearchAllDepths</td>
<td>false</td>
<td>Whether user searches should search through the LDAP tree or only for direct children of the DN specified by the userSearchFilter. [3]</td>
</tr>
<tr>
<td>groupSearchAllDepths</td>
<td>false</td>
<td>Whether group searches should search through the LDAP tree or only for direct children of the DN specified by the groupSearchFilter. [3]</td>
</tr>
<tr>
<td>useUnqualifiedUsernameForMembershipComparison</td>
<td>false</td>
<td>If set to true, Confluence will use the value of the usernameAttribute on the user to check for group membership comparisons instead of the complete distinguished name.</td>
</tr>
</tbody>
</table>

Notes

1. The connection pool properties provided by Atlassian-User correspond with the connection pooling properties in JNDI. See this documentation for further information.
2. More information on this time limit is available on Sun's JNDI tutorial.
3. The "searchAllDepths" parameters toggle between SearchControls.SUBTREE_SCOPE (true) and SearchControls.ONELEVEL_SCOPE (false). See Sun's JNDI tutorial on scope configuration for more information.

To override the default values listed above, you can add the value inside your `<ldap>` tag after the rest of your configuration:

```
<ldap ...
  ...
  <initSize>20</initSize> <!-- bigger initial connection pool! -->
</ldap>
```

Stage 6 - Optional: Configure LDAP for User Authentication Only

If you’d like to configure LDAP for user management and authentication only, start by configuring LDAP integration with groups then follow the instructions for authentication-only LDAP to disable the group management functionality.

Optional: Configuring Multiple LDAP Repositories

For some LDAP servers, it might be necessary to configure Confluence to connect to multiple LDAP servers. This functionality is available in Confluence 2.3 and above, and has a separate guide: Configuring multiple LDAP repositories.

RELATED TOPICS
Add LDAP Integration
Configuring multiple LDAP repositories
atlassian-user.xml reference
How to write a LDAP search filter, in the Atlassian Development space.

Migrate to LDAP User Management From OsUser

Is this guide for me?

Use Add LDAP Integration instead if:

- You are setting up Confluence for the first time.
- You do not need to retain group membership for existing users.
- You are using hibernate user management. To find out, check
  `<confluence-home>/confluence/WEB-INF/classes/atlassian-user.xml`. If there is a hibernate tag but not an os_user tag, you’re using hibernate user management.

Background Information

Confluence has three types of user management: os_user (deprecated in confluence 2.7 and later), hibernate (also known as atlassian-user), and LDAP integration.

These correspond to the three tags in atlassian-user.xml:

- `<ldap key=...>`
- `<hibernate name=...>`
- `<osuser key=...>`

In Confluence 2.7, during the upgrade task, users are migrated from os_user to hibernate when Confluence is first started. This migration can also be run manually.

When to Run the User Migration

Under most conditions, you’ll want to migrate from OsUser to Hibernate User Management. However, there is one condition under which you’ll want to hold off on doing the automatic user management migration when upgrading.

As described in this jira issue, local groups are not retained when migrating from hibernate user management to LDAP. However, if you are using OsUser for user management and want to switch to LDAP, you can retain group membership by following this procedure:

1. Create a test environment. This will create an exact replica of your current version. Use your current version. This will ensure that the automatic user migration does not occur when you restart.
2. Download ldap_hibernate_osuser_atlassian-user.xml, rename it to atlassian-user.xml then copy to your `<INSTALL>/confluence/WEB-INF/classes` directory. It should overwrite the previous atlassian-user.xml. Your atlassian-user.xml file should have LDAP, hibernate and osuser repositories (in this order) enabled.
3. Follow Customising atlassian-user.xml
4. Restart Confluence. Login as an Administrator, and go to this URL:

   `<BASEURL>/admin/osuser2atluser.jsp`

   Replace `<BASEURL>` with the URL you currently use to access Confluence. For example, `http://confluence.atlassian.com` or `http://foobar.com/confluence`. 
5. Click the link **Begin migration**. You will know the migration has been successful if you see this reported:

```
Migrating users ... Users migrated successfully!
Migrating propertyset data ... Propertyset data migrated successfully!
Migrating groups ... Groups migrated successfully!
```

If you encounter errors, please create a support ticket at [http://support.atlassian.com](http://support.atlassian.com) and attach your application server logs.


7. Edit the `atlassian-user.xml` file and comment out the `<osuser>` repository.

   Change this line:

   ```xml
   <osuser key="osuserRepository" name="OSUser Repository"/>
   ```

   to this:

   ```xml
   <!-- <osuser key="osuserRepository" name="OSUser Repository"/> -->
   ```

8. Start up Confluence and check that you can login using the admin account you first set up when running through the Confluence Setup Wizard. If not, re-examine your steps and repeat from there.

### Grant access to LDAP users and groups

To grant Confluence login access to your LDAP groups and users:

1. From Confluence, go to Administration > Global Permissions
2. Click to Edit Permissions for Groups
3. In the textbox to Grant Browse Permission, enter the name of an LDAP group that should have Confluence access. Click Add.
4. Tick the Can Use box for the LDAP group. If the group is not found, it was not present in your LDAP server.
5. For other LDAP groups that need access to Confluence, add them using the same method.
6. If you are integrating LDAP with Confluence for authentication only, no LDAP groups will appear in Confluence. All the individual LDAP users will have to be manually added to an internal Confluence group having with Can Use permissions enabled before they can have access to Confluence.
7. Setup your Confluence page and space permissions for these LDAP groups and users.

To setup all LDAP users as members of particular Confluence internal groups, use the **LDAP Dynamic Groups Plugin**.

### Testing

1. Check that groups are associated by visiting a user from the User Browser and logging in.
2. Check your external entities and external members tables on your database. If done correctly, these tables should contain the users who were migrated from os_users and matched in LDAP. You should be able to see their group associations in the external_members table.

   ```
   SELECT * FROM external_entities;
   SELECT * FROM external_members;
   ```

3. Check your users table. These are the users who were *not* matched in LDAP. It might include the `admin` user that you made when you originally created the wiki, and perhaps others who’ve signed up who are not in LDAP. If you need to migrate users from this table into LDAP, check the utility attached to [CONF-10654](mailto:CONF-10654).

### Related Pages

- Confluence LDAP Documentation Index
- Add LDAP Integration For User Authentication Only

### More information

- **LDAP FAQ**
- If LDAP users or groups are not displayed in Confluence, download the Paddle diagnostic tool
- List of known, unresolved LDAP bugs
Add LDAP Integration For User Authentication Only

Explanation

If you'd like to configure LDAP for user management and authentication only, start by configuring LDAP integration with groups, and continue to this point to remove group management.

Applies For

- Enabling LDAP for the first time
- Upgrading existing LDAP without enabling group management

Important Points

- LDAP users will be mapped to Confluence. If the Confluence username coincides with the LDAP username, the password lookup is done against LDAP. Group management will happen in Confluence.
- Each LDAP user must be added to an internal Confluence group having Can Use permissions in order for those LDAP users to access Confluence. If a password is created for an LDAP user in Confluence, it will be ignored as the LDAP password will override it.

Instructions

If you do not wish Confluence to retrieve any of your LDAP groups and display them inside Confluence then you can do this by specifying a dummy value for the groupSearchFilter filter in your atlassian-user.xml file. That is, update your atlassian-user.xml file with the following:

```xml
<groupSearchFilter>(objectClass=dummyValue)</groupSearchFilter>
```

An example atlassian-user.xml file:

```xml
<baseUserNamespace>cn=users,dc=ad,dc=atlassian,dc=com</baseUserNamespace>
<baseGroupNamespace>ou=groups,dc=ad,dc=atlassian,dc=com</baseGroupNamespace>
usernameAttribute>sAMAccountName</usernameAttribute>
userSearchFilter>(objectClass=user)</userSearchFilter>
firstnameAttribute>givenname</firstnameAttribute>
surnameAttribute>sn</surnameAttribute>
emailAttribute>mail</emailAttribute>
groupnameAttribute>cn</groupnameAttribute>
groupSearchFilter>(objectClass=dummyValue)</groupSearchFilter>
membershipAttribute>member</membershipAttribute>
userSearchAllDepths>false</userSearchAllDepths>
groupSearchAllDepths>false</groupSearchAllDepths>
```

Please note: You will still have to provide a valid LDAP DN for baseGroupNamespace. Confluence still performs a search for groups quite frequently, so you should use a DN without many child nodes, like an individual user DN.

atlassian-user.xml reference

This page describes the function of each of the tags in an atlassian-user.xml file. These can be added as child tags of the `<ldap>` tag in your atlassian-user.xml file to configure each option.

Developer note: this information is derived from atlassian-user-defaults.xml, which can be found in the source of Atlassian-User under src/main/resources/. It also ships in atlassian-user.jar.

Core settings

These settings do not have a default value and must be provided to configure an LDAP connection.

<table>
<thead>
<tr>
<th>XML tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LDAP connection properties</strong></td>
<td></td>
</tr>
<tr>
<td>host</td>
<td>The host name of the machine running the LDAP server. This must resolve from the machine running Confluence.</td>
</tr>
<tr>
<td>port</td>
<td>The port number that the LDAP server is running on. This should usually be 389.</td>
</tr>
<tr>
<td>securityPrincipal</td>
<td>The distinguished name (DN) of a user who is allowed to browse the entire LDAP repository. This can be omitted if the repository has anonymous access enabled.</td>
</tr>
</tbody>
</table>
### securityCredential
The password for the user configured as the securityPrincipal. This can be omitted if the repository has anonymous access enabled. [1]

### baseContext
The DN of the top of the LDAP tree that contains both users and groups.

### LDAP user mapping properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>baseUserNamespace</td>
<td>The DN at the top of the LDAP tree which contains users. For example: <code>ou=users,dc=example,dc=com</code>.</td>
</tr>
<tr>
<td>userSearchFilter</td>
<td>An LDAP search filter which matches only users under the baseUserNamespace. For example: <code>{objectClass=person}</code>. [1]</td>
</tr>
<tr>
<td>usernameAttribute</td>
<td>The attribute on a user in LDAP which contains the Confluence username. It must be unique across all users. For example: cn (OpenLDAP), sAMAccountName (AD).</td>
</tr>
<tr>
<td>firstnameAttribute</td>
<td>The attribute on a user in LDAP which contains the first name of the user. For example: firstName.</td>
</tr>
<tr>
<td>surnameAttribute</td>
<td>The attribute on a user in LDAP which contains the last name of the user. For example: sn.</td>
</tr>
<tr>
<td>emailAttribute</td>
<td>The attribute on a user in LDAP which contains the email address of the user. For example: mail.</td>
</tr>
</tbody>
</table>

### LDAP group mapping properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>baseGroupNamespace</td>
<td>The DN at the top of the LDAP tree which contains groups. For example: <code>ou=groups,dc=example,dc=com</code>.</td>
</tr>
<tr>
<td>groupSearchFilter</td>
<td>An LDAP search filter which matches only group entities under the baseGroupNamespace. For example: <code>{objectClass=group}</code>. [1]</td>
</tr>
<tr>
<td>groupnameAttribute</td>
<td>The attribute on a group in LDAP which contains the Confluence group name. It must be unique across all groups. For example: cn.</td>
</tr>
<tr>
<td>membershipAttribute</td>
<td>The attribute on a group in LDAP which contains the DN of each member in the group. [2] For example: member.</td>
</tr>
</tbody>
</table>

### Notes

1. If these values contain ampersands, they must be escaped in the XML file. This is a common situation with LDAP search filters and passwords containing ampersands. For example, the LDAP search filter `(&(objectClass=user)(mail=*@example.com))` would be put in the XML as: `<userSearchFilter>&amp;(objectClass=user)(mail=*@example.com)</userSearchFilter>`. 
2. This can also contain the user name of each member of the group. See the useUnqualifiedUsernameForMembershipComparison optional configuration setting below.

### Optional settings

<table>
<thead>
<tr>
<th>XML tag</th>
<th>Default value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LDAP connection properties</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>securityProtocol</td>
<td>plain ssl</td>
<td>Allow encrypted (SSL) connections. Can be omitted if anonymous access is available.</td>
</tr>
<tr>
<td>authentication</td>
<td>simple</td>
<td>Plain-text password transmission. Can be 'none' if anonymous access to the LDAP server is available.</td>
</tr>
<tr>
<td>initialContextFactory</td>
<td>com.sun.jndi.ldap.LdapCtxFactory</td>
<td>Class name of LDAP provider (default: Sun JNDI)</td>
</tr>
<tr>
<td>batchSize</td>
<td>100</td>
<td>Size of pages in search results</td>
</tr>
<tr>
<td>poolingOn</td>
<td>true</td>
<td>Use connection pooling</td>
</tr>
<tr>
<td>connectTimeout</td>
<td>30000</td>
<td>Timeout in milliseconds when opening new server connections. Default: 30 seconds.</td>
</tr>
<tr>
<td>readTimeout</td>
<td>60000</td>
<td>Timeout in milliseconds for search and other read operations. Default: 60 seconds.</td>
</tr>
<tr>
<td><strong>LDAP connection pool properties</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>initSize</td>
<td>1</td>
<td>Initial size of connection pool, e.g. number of connections to open at start-up. [1]</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>prefSize</td>
<td>10</td>
<td>Preferred size of connection pool. [1]</td>
</tr>
<tr>
<td>maxSize</td>
<td>0</td>
<td>Maximum size of connection pool. Zero means no maximum size. [1]</td>
</tr>
<tr>
<td>timeout</td>
<td>300000</td>
<td>Idle time in milliseconds for a connection before it is removed from the pool. Default: 5 minutes. [1]</td>
</tr>
<tr>
<td>debugLevel</td>
<td>none</td>
<td>Debug level for logging. [1]</td>
</tr>
<tr>
<td>poolAuthentication</td>
<td>simple</td>
<td>Authentication for pool connections. [1]</td>
</tr>
</tbody>
</table>

**LDAP search properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>timeToLive</td>
<td>0</td>
<td>Time limit on searches in milliseconds. Zero means no limit. [2]</td>
</tr>
<tr>
<td>userSearchAllDepths</td>
<td>false</td>
<td>Whether user searches should search through the LDAP tree or only for direct children of the DN specified by the userSearchFilter. [3]</td>
</tr>
<tr>
<td>groupSearchAllDepths</td>
<td>false</td>
<td>Whether group searches should search through the LDAP tree or only for direct children of the DN specified by the groupSearchFilter. [3]</td>
</tr>
<tr>
<td>useUnqualifiedUsernameForMembershipComparison</td>
<td>false</td>
<td>If set to true, Confluence will use the value of the usernameAttribute on the user to check for group membership comparisons instead of the complete distinguished name.</td>
</tr>
</tbody>
</table>

**Notes**

1. The connection pool properties provided by Atlassian-User correspond with the connection pooling properties in JNDI. See this documentation for further information.
2. More information on this time limit is available on Sun’s JNDI tutorial.
3. The "searchAllDepths" parameters toggle between SearchControls.SUBTREE_SCOPE (true) and SearchControls.ONELEVEL_SCOPE (false). See Sun’s JNDI tutorial on scope configuration for more information.

**RELATED TOPICS**

- Customising atlassian-user.xml
- Add LDAP Integration
- LDAP User Management

**Changes in osuser.xml from 1.0.3a to 1.1.x**

If you have setup Confluence to:

- delegate user management to JIRA (as per our documentation here) or
- use LDAP/Active directory authentication (as per our documentation here)

Then you will need to make the following changes to your osuser.xml file:

1. replace

   ```java
   com.atlassian.confluence.user.providers.Caching
   ```

   with

   ```java
   bucket.user.providers.Caching
   ```

   Doing this will effectively convert the following:

   ```java
   com.atlassian.confluence.user.providers.CachingCredentialsProvider
   com.atlassian.confluence.user.providers.CachingAccessProvider
   com.atlassian.confluence.user.providers.CachingProfileProvider
   ```

   to
Configuring multiple LDAP repositories

In this document:

- Prerequisites
- Configuration
- Side effects
- Cache configuration
- Two connections to the same server
- Single Sign-On Alternative
- Related pages

Prerequisites

Before reading this, ensure you understand the configuration details outlined in Customising atlassian-user.xml. This describes how to configure a single LDAP repository in Confluence, and is prerequisite knowledge for following the instructions below.

For brevity, all examples on this page are partial examples. A complete atlassian-user.xml LDAP configuration can be found in Customising atlassian-user.xml.

You will need at least Confluence 2.3 or higher to be able to use these instructions.

Configuration

To configure multiple LDAP repositories in Confluence, put multiple <ldap>...</ldap> entries into confluence/WEB-INF/classes/atlassian-user.xml.

The order of the entries in the file will be the order that the repositories are searched for users. That is, if a user tries to log in with the username jsmith, the first repository in atlassian-user.xml will be searched for the user with the username jsmith. If no user is found in that repository, the second repository specified in atlassian-user.xml will be searched.

Here is a partial configuration that connects Confluence to two different LDAP servers. They are given the identifiers ldap1 and ldap2, and connect to the servers ldap-sf.example.org and ldap-nyc.example.org respectively.

If you change your ldap key to a different name, you will need to change the cache name to pick it up. This is described in CONFKB181536872.
Points to note:

- each server must have a unique `key` attribute
- each server must include the full LDAP configuration, including `baseUserNamespace`, `baseGroupNamespace` and so on
- Confluence's internal repository, the `<hibernate>` repository, must be specified last
- you can include more than two LDAP repositories, but please read the `Side effects` section below.

Side effects

The main side effect of configuring multiple LDAP servers is degrading performance. There are many activities in Confluence where user or group information is retrieved:

- logging in
- user/group searches
- permission checks when viewing or editing a page.

Confluence tries to cache as much information as possible from the LDAP queries, but adding multiple LDAP servers will degrade the performance of the application. This is especially true if any of the LDAP servers are geographically distant from Confluence, where any LDAP query has a significant latency (> 50 ms roundtrip).

Cache configuration

You will need to configure your `confluence-coherence-cache-config.xml` file to add LDAP related caches for every additional LDAP repository being added to `atlassian-user.xml`.

To do this, please add the following block of lines to respective cache configuration file, for each additional LDAP repository being configured:

```xml
<atlassian-user>
  <repositories>
    <ldap key="ldap1" name="San Francisco Example Repository" cache="true">
      <host>ldap-sf.example.org</host>
      <port>389</port>
      <!-- ... remainder of server configuration ... -->
    </ldap>
    <ldap key="ldap2" name="New York City Example Repository" cache="true">
      <host>ldap-nyc.example.org</host>
      <port>389</port>
      <!-- ... remainder of server configuration ... -->
    </ldap>
    <hibernate key="hibernate" name="Hibernate Repository" description="Hibernate Repository" />
  </repositories>
</atlassian-user>
```
Please replace the example LDAP key above `ldapRepository2`, with your relevant LDAP key, such that it matches the one defined in your `atlassian-user.xml` file.

Two connections to the same server

It is also possible, but not usually recommended, for Confluence to connect twice to the same server. When connecting twice to the same server, **you must not have overlapping group or user namespaces in the LDAP tree**.

Here is an partial configuration, retrieving two separate LDAP user branches, but only one LDAP group branch. To configure only a single group branch, the group filter in the second LDAP repository searches for a non-existent value so it will not return any results. (This is generally fast as long as your LDAP server has an index on objectClass for the given tree section.)
Points to note:

- each repository will have its own connection pool, so Confluence will use twice as many connections to the LDAP server
- performance will typically be degraded, as discussed in Side effects above
- each server must have a unique key attribute
- each server must include the full LDAP configuration, including baseUserNamespace, baseGroupNamespace and so on
- Confluence's internal repository, the <hibernate> repository, must be specified last.

Single Sign-On Alternative

Rather than configuring multiple LDAP repositories, you’re able to reduce the overhead of having multiple LDAP servers by setting up an SSO solution as an intermediate user manager. Confluence only needs to lookup the SSO tool once, and that tool then looks up both servers on behalf of Confluence. The SSO tool essentially federates your LDAP servers into a single service and also caches the results across all applications that use single sign-on.

The main advantage is that if a user is already logged into any applications that have single sign-on enabled, then their account details will already be cached by the SSO tool and can normally be served from cache. Only the first application request needs to wait for the LDAP response, with subsequent requests from that or other applications able to use the SSO cache until it expires. If your LDAP servers are high-latency, then you can also reduce latency on cache lookups by locating the SSO tool closer to your Confluence server. Atlassian Crowd is an example SSO solution that already integrates with LDAP and all Atlassian tools.

Related pages

Customising atlassian-user.xml
Add LDAP Integration

Connect to LDAP, JIRA or Other Services Via SSL

Confluence and SSL Services

To serve Confluence pages over SSL, refer to Adding SSL for Secure Logins and Page Security. This document describes connections to SSL Services. The most common are LDAP over SSL and Trusted Applications when JIRA is running over SSL.

Importing SSL Certificates
Atlassian User LDAP supports connecting to an LDAP server over SSL/HTTPS. The Trusted Communications protocol requires configuration if JIRA is running over SSL.

1. Add the root certificate to your default Java keystore with the following command. This is the certificate that was used to authorise the LDAP server's certificate; it will be either the one that was used for signing it, or will come from further up in the trust chain, possibly the root certificate. This is often a self-signed certificate, when both ends of the SSL connection are within the same network. Again, the exact alias is not important.

   ```
   keytool -import -alias serverCert -file RootCert.crt -keystore %JAVA_HOME%/jre/lib/security/cacerts (Windows)
   keytool -import -alias serverCert -file RootCert.crt -keystore $JAVA_HOME/lib/security/cacerts (Linux/Unix/Mac)
   ```

2. Import your LDAP or JIRA server’s public certificate into the JVM Keystore. This is the certificate that the LDAP server will use to set up the SSL encryption, and you can use any alias of your choosing in place of “JIRAorLDAPServer.crt”.

   ```
   keytool -import -alias ldapCert -file JIRAorLDAPServer.crt -keystore %JAVA_HOME%/jre/lib/security/cacerts (Windows)
   keytool -import -alias ldapCert -file JIRAorLDAPServer.crt -keystore $JAVA_HOME/jre/lib/security/cacerts (Linux/Unix/Mac)
   ```

3. Edit the file in your Confluence install directory, `confluence\WEB-INF\classes\atlassian-user.xml`. Change the value of `securityProtocol` from "plain" to "ssl":

   ```xml
   <securityProtocol>ssl</securityProtocol>
   ```

   Switch the LDAP connection to the SSL port, if it’s different from the default LDAP port. If you’re using the most common LDAPS port, set

   ```
   <port>636</port>
   ```

   The keytool will ask you for a password. The default password is “changeit” without the quotes.

4. Verify that the certificate has been added successfully by entering the following command:

   ```
   keytool -list -keystore %JAVA_HOME%/jre/lib/security/cacerts (Windows)
   keytool -list -keystore $JAVA_HOME/jre/lib/security/cacerts (Linux/Unix/Mac)
   ```

5. Ensure that you've updated JAVA_OPTS to specify the path to the keystore, as specified in Connecting to SSL services, before restarting tomcat/Confluence. There’s no need to specify an alias for Confluence to use; on connecting to the LDAP server, it will search through the keystore to find a certificate to match the key being presented by the server.

Troubleshooting

Check Unable to Connect to SSL Services due to PKIX Path Building Failed `sun.security.provider.certpath.SunCertPathBuilderException` or the more general SSL Troubleshooting articles for troubleshooting information.

RELATED ARTICLES

- JIRA Connecting to SSL Services
- Confluence Unable to Connect to SSL Services
- Configure Web Proxy Support for Confluence
- Adding SSL for Secure Logins and Page Security
- Troubleshooting SSL

Disabling the Built-In User Management
You only need to follow the instructions on this page if you are using JIRA for user management. It disables all the group and user management screens in Confluence.

You can choose to enable this setting for Crowd or LDAP user management, if you are happy to manage users and groups outside Confluence.

Enabling the "external user management" setting will make user and group management screens read-only within Confluence.

This will also prevent users from signing up to the site, as well as editing their name, email and password particulars from within Confluence.

You need to have System Administrator permissions in order to perform this function.

To disable management of users and groups within Confluence,

1. Go to the Confluence 'Administration Console'. To do this:
   * Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'General Configuration' in the left-hand panel.
3. In the 'General Configuration' screen, click 'Edit'.
4. Select 'On' beside 'External User Management'.
5. Click 'Save'.

Confluence installations using Crowd for user and group management:
If Crowd's directory permissions are configured so that Confluence cannot update the Crowd directories, then Confluence's external user management setting must be turned on. Otherwise, a 'System Error' will occur when Confluence attempts to write data into Crowd. For more information about integrating Crowd with Confluence, please refer to Integrating Crowd with Atlassian Confluence.

RELATED TOPICS

- Changes in osuser.xml from 1.0.3a to 1.1.x
- Add LDAP Integration For User Authentication Only
- Disabling the Built-In User Management

Legacy User Management Documentation

This section contains legacy user management documentation.

- LDAP Authentication with OSUser

LDAP Authentication with OSUser

- Deprecated for Confluence 2.7.0 and later

  For Confluence 2.7.0 and above, all user management is performed by AtlassianUser as described in Understanding User Management in Confluence. OSUser user management, described in this document, has been deprecated.

  For up-to-date instructions on configuring LDAP authentication, see Add LDAP Integration.

Overview

To configure Confluence to connect to LDAP for user management only, you have two options:

1. Use LDAP for users and authentication, not groups. That's described in Add LDAP integration, and includes an optional step to remove group management. This method is supported in Confluence versions after version 2.7.

   or

2. Create and manage users and groups in Confluence, and use LDAP for authentication only. This is the deprecated OSUser management approach, as described in this document. If a username exists in both Confluence and LDAP, the user uses their LDAP password to log in. This method has been deprecated after Confluence version 2.7
Important Points about Option 2 Above

- Only the password lookup is done against LDAP and only if the Confluence username is the same as the LDAP username. Users and user profiles are still managed in Confluence. See technical explanation below.
- A Confluence account must be created for each LDAP user, as users do not automatically have access. For an LDAP user to access Confluence, a site administrator will still need to create an account for them. The password in this Confluence account will be ignored as the LDAP password will override it.

Instructions

Step 1: Modify atlassian-user.xml to use OSUser Management

For Confluence 2.7 and above, the default user repository is the hibernate repository (Atlassian User). To revert to OSUser, you will need to put the OSUser repository tag in the top position so it's the primary user management option. Modify /confluence/WEB-INF/classes/atlassian-user.xml to contain this:

```
<atlassian-user>
  <repositories>
    <osuser key="osuserRepository" name="OSUser Repository"/>
    <hibernate name="Hibernate Repository" key="hibernateRepository" description="Hibernate Repository" cache="true"/>
  </repositories>
</atlassian-user>
```

Note: For Confluence version prior to 2.7, if you have delegated your user management to JIRA, LDAP or any other external user management system, copy the following files from your old Confluence installation to your new Confluence installation:

- `<Installation-Directory>/confluence/WEB-INF/classes/osuser.xml`
- `<Installation-Directory>/confluence/WEB-INF/classes/atlassian-user.xml` (if you are upgrading from Confluence 2.2 or later).

Step 2: Open the osuser.xml file located in your home directory under WEB-INF/classes

In the osuser.xml file, the CredentialsProviders are responsible for authenticating passwords. The default CachingCredentialsProvider looks in the Confluence database. To enable LDAP authentication, you will need to add a LDAPCredentialsProvider, so that LDAP users can also be authenticated:

Here's what the default osuser.xml contains:

```
<provider class="bucket.user.providers.CachingCredentialsProvider">
  <property name="chain.classname">com.opensymphony.user.provider.hibernate.HibernateCredentialsProvider</property>
  <property name="chain.configuration.provider.class">bucket.user.BucketHibernateConfigProvider</property>
</provider>
<provider class="bucket.user.providers.CachingAccessProvider">
  <property name="chain.classname">com.opensymphony.user.provider.hibernate.HibernateAccessProvider</property>
  <property name="chain.configuration.provider.class">bucket.user.BucketHibernateConfigProvider</property>
</provider>
<provider class="bucket.user.providers.CachingProfileProvider">
  <property name="chain.classname">com.opensymphony.user.provider.hibernate.HibernateProfileProvider</property>
  <property name="chain.configuration.provider.class">bucket.user.BucketHibernateConfigProvider</property>
</provider>
```

Step 3: Edit the osuser.xml file as shown below

For Confluence version 2.1 and later:
For older versions of Confluence

- Update the following properties to suit your LDAP server:
  - `url` (currently set to `ldap://localhost:389`)
  - `searchBase` (currently set to `dc=atlassian,dc=com`)
  - `uidSearchName` (currently set to `cn`)

- If your LDAP server is not configured to allow anonymous lookups, you need to:
  - remove comment tags
  - enter the username; including searchBase (currently set to `cn=Manager,dc=atlassian,dc=com`)
  - enter password (currently set to `secret`)

The Credentials (password) checking is a separate operation from user-profile lookups. The profile can be loaded from the Confluence
database, but the password is looked up from LDAP. Furthermore, multiple credentials providers can be specified (here, LDAP and OSUser), and if one fails, the other will be used. This allows non-LDAP users to log in with their Confluence password.

**How this works**

It is useful to have a general idea of how this setup works. This section outlines some consequences of this OSUser implementation and provides some help for people experiencing LDAP connection problems.

Only password-checking for LDAP users is done in Confluence

User profiles are still managed in Confluence (by the CachingProfileProvider in osuser.xml). Only the password lookup is performed against LDAP and only if the Confluence username coincides with a LDAP username. This is because Credentials (password) checking is a separate operation to user-profile lookups. The profile can be loaded from the Confluence database, but the password is looked up from LDAP.

Not all LDAP users have Confluence access

Another effect of this implementation is that LDAP users do not automatically have access to Confluence. A Confluence account must be created for each user wishing to use Confluence.

This is because each Confluence user has a set of groups (for example, 'confluence-users') stored in their profile. Without an associated group, that user can do nothing; not even browse Confluence (that is, they lack the 'use' permission).

Thus, for an LDAP user to use Confluence, a Confluence admin must create an account for them and assign them to a group (typically 'confluence-user'). The password in this Confluence account will be ignored, as the LDAP password will override it.

**RELATED TOPICS**

- Changes in osuser.xml from 1.0.3a to 1.1.x
- Add LDAP Integration For User Authentication Only
- Disabling the Built-In User Management

**Troubleshooting LDAP User Management**

Confluence supplies an LDAP connectivity tool (also called 'Paddle') that will test the LDAP settings in your atlassian-user.xml file. This will help you to diagnose problems with LDAP user management, such as:

- LDAP server not responding.
- LDAP settings incorrectly configured in atlassian-user.
- Other issues reported from the LDAP queries run by the testing tool.

LDAP is the protocol used for user management by Active Directory and other LDAP directories.

**This document applies to Confluence 2.8 and later**

From Confluence version 2.8, the LDAP User Test tool is integrated into the Administration Console. In previous versions of Confluence, this tool was available as a separate utility called 'Paddle'. If you are running an earlier version of Confluence, please refer to the Confluence 2.7 documentation or choose the relevant Confluence version from the list of previous versions on the documentation home page.

**On this page:**

- Running the LDAP Connectivity Tool via the Administration Console
- Running the LDAP Connectivity Test Tool outside Confluence
  - Steps in Detail
  - Parameters
  - Sample Output
    - Output from a Successful Test
    - Output showing Failure to Connect
    - Output showing No LDAP Configuration
  - RELATED TOPICS

**Running the LDAP Connectivity Tool via the Administration Console**

⚠️ **Note:** You will need to restart your Confluence server each time you make changes to your atlassian-user.xml file. To avoid this, consider running the tool outside of Confluence.

To test your LDAP connection settings,
1. First verify that your atlassian-user.xml contains at least one LDAP repository with a key of "ldapRepository".

2. Go to the Confluence ‘Administration Console’. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
3. Select 'LDAP Connectivity Test' in the 'Administration' section of the left-hand panel.
   - The 'LDAP Connectivity Test' will only appear if your atlassian-user.xml contains an ldap repository with a key of "ldapRepository", as described in the preceding step.
4. The results of the test will appear in the main panel of the screen. Refer to the screenshot below for an example, and to the output samples lower down on this page.

**Running the LDAP Connectivity Test Tool outside Confluence**

You do not need to have Confluence running to run this tool. Instead, you can download this jar and perform the following steps.

**Steps in Detail**
1. Copy the Paddle jar file into a directory where you have permission to create files.
2. Copy your atlassian-user.xml file into the same directory. You will find this file at the following location in your Confluence Installation directory: \Confluence-Installation\confluence\WEB-INF\classes\atlassian-user.xml.
3. Run java -jar paddle-6.jar.

Parameters

Paddle supports the following parameters:

<table>
<thead>
<tr>
<th>Name</th>
<th>Example</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>debug</td>
<td>java -jar paddle-x.x.jar debug</td>
<td>Prints DEBUG messages to the console as well as paddle.log.</td>
</tr>
<tr>
<td>limit</td>
<td>java -jar paddle-x.x.jar limit=100</td>
<td>Sets the limit on the number of results returned by user and group queries. Defaults to 10.</td>
</tr>
</tbody>
</table>

Sample Output

Below are some examples of the output from the user test tool. The output is the same, whether you run the tool via the Administration Console or outside Confluence.

Output from a Successful Test

This is an example of a successful run:

```
# LDAP Support Tool version 4.0
# Connected to server successfully
# TEST 1: Search and list 10 users

User: cn=foobar2092828899,ou=users,dc=example,dc=com
Member of:
    cn=ldap-confluence-users236420517,ou=groups,dc=example,dc=com
cn=ldap-confluence-users1970486739,ou=groups,dc=example,dc=com
User: cn=foobar1810841610,ou=users,dc=example,dc=com
Member of:
    cn=ldap-confluence-users646381955,ou=groups,dc=example,dc=com
cn=ldap-confluence-users94129091,ou=groups,dc=example,dc=com
User: cn=foobar1678090341,ou=users,dc=example,dc=com
Member of:
    cn=ldap-confluence-users971262324,ou=groups,dc=example,dc=com
cn=ldap-confluence-users1400937719,ou=groups,dc=example,dc=com
User: cn=foobar625635825,ou=users,dc=example,dc=com
Member of:
    cn=ldap-confluence-users866930491,ou=groups,dc=example,dc=com
cn=ldap-confluence-users80556787,ou=groups,dc=example,dc=com
User: cn=foobar1740817394,ou=users,dc=example,dc=com
Member of:
    cn=ldap-confluence-users866930491,ou=groups,dc=example,dc=com
cn=ldap-confluence-users80556787,ou=groups,dc=example,dc=com
User: cn=foobar39774714,ou=users,dc=example,dc=com
Member of:
    cn=ldap-confluence-users902164367,ou=groups,dc=example,dc=com
cn=ldap-confluence-users93075839,ou=groups,dc=example,dc=com
User: cn=foobar1748690196,ou=users,dc=example,dc=com
Member of:
    cn=ldap-confluence-users1386043681,ou=groups,dc=example,dc=com
cn=ldap-confluence-users1418978137,ou=groups,dc=example,dc=com
User: cn=foobar1958046554,ou=users,dc=example,dc=com
Member of:
    cn=ldap-confluence-users1970486739,ou=groups,dc=example,dc=com
cn=ldap-confluence-users220323310,ou=groups,dc=example,dc=com
User: cn=foobar1263319669,ou=users,dc=example,dc=com
Member of:
    cn=ldap-confluence-users283478949,ou=groups,dc=example,dc=com
cn=ldap-confluence-users866930491,ou=groups,dc=example,dc=com
```
User: cn=foobar1541805698,ou=users,dc=example,dc=com
Member of:
cn=ldap-confluence-users173691793,ou=groups,dc=example,dc=com
cn=ldap-confluence-users91103886,ou=groups,dc=example,dc=com

----------------------------------------
TEST 2: Search and list 10 groups
----------------------------------------

Group: cn=ldap-confluence-users16368779,ou=groups,dc=example,dc=com
Members:
cn=foobar1588244344,ou=users,dc=example,dc=com
cn=foobar997638232,ou=users,dc=example,dc=com
cn=foobar1479204247,ou=users,dc=example,dc=com
cn=foobar1371991481,ou=users,dc=example,dc=com
cn=foobar79627990,ou=users,dc=example,dc=com
cn=foobar904159761,ou=users,dc=example,dc=com
cn=foobar1992607123,ou=users,dc=example,dc=com
cn=foobar339977082,ou=users,dc=example,dc=com
cn=foobar725629285,ou=users,dc=example,dc=com
cn=foobar1317948366,ou=users,dc=example,dc=com

Group: cn=ldap-confluence-users1721354031,ou=groups,dc=example,dc=com
Members:
cn=foobar991592891,ou=users,dc=example,dc=com
cn=foobar1710975716,ou=users,dc=example,dc=com
cn=foobar1924366176,ou=users,dc=example,dc=com
cn=foobar1999491022,ou=users,dc=example,dc=com
cn=foobar14075397,ou=users,dc=example,dc=com
cn=foobar539697111,ou=users,dc=example,dc=com
cn=foobar12108820,ou=users,dc=example,dc=com
cn=foobar1369772211,ou=users,dc=example,dc=com

Group: cn=ldap-confluence-users1418978137,ou=groups,dc=example,dc=com
Members:
cn=foobar1588906497,ou=users,dc=example,dc=com
cn=foobar1710975716,ou=users,dc=example,dc=com
cn=foobar13551675,ou=users,dc=example,dc=com
cn=foobar111198746,ou=users,dc=example,dc=com
cn=foobar1431209068,ou=users,dc=example,dc=com
cn=foobar1748690196,ou=users,dc=example,dc=com
cn=foobar1650270608,ou=users,dc=example,dc=com
cn=foobar1081828794,ou=users,dc=example,dc=com
cn=foobar39777841,ou=users,dc=example,dc=com
cn=foobar982743351,ou=users,dc=example,dc=com
cn=foobar305199694,ou=users,dc=example,dc=com

Group: cn=ldap-confluence-users1970486739,ou=groups,dc=example,dc=com
Members:
cn=foobar547480036,ou=users,dc=example,dc=com
cn=foobar209282889,ou=users,dc=example,dc=com
cn=foobar1710975716,ou=users,dc=example,dc=com
cn=foobar1505673129,ou=users,dc=example,dc=com
cn=foobar140221544,ou=users,dc=example,dc=com
cn=foobar1360767914,ou=users,dc=example,dc=com
cn=foobar190083417,ou=users,dc=example,dc=com
cn=foobar174731777,ou=users,dc=example,dc=com

Group: cn=ldap-confluence-users80556787,ou=groups,dc=example,dc=com
Members:
cn=foobar763847686,ou=users,dc=example,dc=com
cn=foobar53261707,ou=users,dc=example,dc=com
cn=foobar1478107215,ou=users,dc=example,dc=com
cn=foobar1457651713,ou=users,dc=example,dc=com
cn=foobar1740817394,ou=users,dc=example,dc=com
cn=foobar74728147,ou=users,dc=example,dc=com
cn=foobar1686683086,ou=users,dc=example,dc=com
cn=foobar62535825,ou=users,dc=example,dc=com
cn=foobar122705808,ou=users,dc=example,dc=com
cn=foobar82130393,ou=users,dc=example,dc=com

Group: cn=ldap-confluence-users93075839,ou=groups,dc=example,dc=com
Members:
cn=foobar1197670610,ou=users,dc=example,dc=com
cn=foobar1478107215,ou=users,dc=example,dc=com
cn=foobar477128147,ou=users,dc=example,dc=com
cn=foobar122705808,ou=users,dc=example,dc=com
cn=foobar47443321,ou=users,dc=example,dc=com
cn=foobar97747114,ou=users,dc=example,dc=com
cn=foobar79719296,ou=users,dc=example,dc=com
cn=foobar1695434944,ou=users,dc=example,dc=com
cn=foobar1251231239,ou=users,dc=example,dc=com
cn=foobar254666,ou=users,dc=example,dc=com

Group: cn=ldap-confluence-users91103896,ou=groups,dc=example,dc=com
Members:
Output showing Failure to Connect

This is an example of the output when the LDAP server is not available:

```
#LDAP Support Tool version 4.0
#
#Failed to connect to LDAP server: Failed to connect to LDAP server with provider URL ldap://ldap.example.com:389: ldap.example.com:389
#
at com.atlassian.paddle.connection.DefaultConnectionFactory.createFriendlyLdapException(DefaultConnectionFactory.java:55)
at com.atlassian.paddle.connection.DefaultConnectionFactory.createConnection(DefaultConnectionFactory.java:35)
at com.atlassian.paddle.task.DefaultTaskRunner.runTask(DefaultTaskRunner.java:33)
at com.atlassian.paddle.Paddle.testConnectivity(Paddle.java:98)
<<<snip>>>
```

Output showing No LDAP Configuration

This is an example of the output when the `atlassian-user.xml` file is not correctly configured for LDAP user management:
Troubleshooting the "Not Permitted" Screen under LDAP Integration

If you have set up Confluence with AtlassianUser integration and attempted a login with an LDAP/AD account and got a page titled "Not Permitted" here are the steps to troubleshoot this:

1. Have you assigned USE permission to the relevant LDAP groups from the Administration > Global Permissions page?

   Before an LDAP user can login and use Confluence, the LDAP group they belong to must be given USE permission directly. (Please note: nested groups is not supported in Confluence as yet, so you cannot specify the parent group. If you want this feature, please vote for it here.)

2. Does an account exist on your LDAP/AD server that has the same name as your local admin account? (for example, is there an account on LDAP called 'admin')?

   If so, then you will not be able to login with your local admin account once you enable LDAP integration. To rectify this, you need to either rename your LDAP admin account or rollback your LDAP integration and create another Confluence admin account.

3. You have assigned USE permission to the relevant LDAP groups, but LDAP users in those groups still get "Not Permitted"?

   Here, you need to check if Confluence is actually aware that your LDAP users belong to those LDAP groups. To work this out, here is what we need from you:
   1. Login as the local admin account you created when you first set up Confluence.
   2. Enable profiling by appending ?profile=on to the end of a Confluence URL (say the URL of the dashboard, if you happen to be on that page) and hit enter to refresh the page. This setting will now be enabled and cause additional information to be written to your log files to help us diagnose the problem.
   3. Now browse to the Administration > Manage Users screen and do a search for any LDAP user.
   4. Now click on the user to view their details (including the groups they belong to).
   5. Now submit a support ticket at http://support.atlassian.com and attach:
      - A screenshot of the user details page.
      - Your server logs files.

   If you are feeling brave, you can attempt to decipher the logs yourself. Here's how:

   1. Your logs should display something similar to this:

   ```java
   [0ms] - com.atlassian.user.impl.ldap.adaptor.LDAPStaticGroupAdaptor_search((&objectClass=groupOfNames(de=confadmin,ou=users,ou=people,ou=functest,dc=atlassian,dc=com)))
   [0ms] - com.atlassian.user.impl.ldap.adaptor.LDAPStaticGroupAdaptor_search_JNDI_RAW_((&objectClass=groupOfNames(de=confadmin,ou=users,ou=people,ou=functest,dc=atlassian,dc=com)))[0ms] - com.atlassian.user.impl.ldap.adaptor.LDAPStaticGroupAdaptor_search((&objectClass=groupOfNames(de=confadmin,ou=users,ou=people,ou=functest,dc=atlassian,dc=com)))
   [0ms] - com.atlassian.user.impl.ldap.adaptor.LDAPStaticGroupAdaptor_search_JNDI_RAW_((&objectClass=groupOfNames(de=confadmin,ou=users,ou=people,ou=functest,dc=atlassian,dc=com)))
   [0ms] - com.atlassian.user.impl.ldap.adaptor.LDAPStaticGroupAdaptor_search((&objectClass=groupOfNames(de=confadmin,ou=users,ou=people,ou=functest,dc=atlassian,dc=com)))
   ```

   This means that Confluence is using this LDAP search filter
   ```java
   (&(objectClass=groupOfNames)(member=cn=confadmin,ou=users,ou=people,ou=functest,dc=atlassian,dc=com))
   ```
   to find the groups that the user 'confadmin' belongs to. Obviously, the objectClass and member attributes may differ in your install, but the filter should be similar.

   2. Connect to your LDAP/AD server with JXplorer or an LDAP tool of your choice, and issue the above filter and check that you get the results you expect. This should help you to identify if and why the filter is incorrect and what it should be. Please add what you find in...
Migrating users from Confluence to JIRA

There is currently no way to delegate user management from JIRA to Confluence. So, if you are in a situation where your users are defined in Confluence and would like to take advantage of Confluence's ability to use JIRA user management, you will need to transfer all of your existing Confluence users into JIRA. You can do this manually, or if you have a large number of users, you can use the attached XML-RPC script.

You should backup your JIRA installation before running this script. This is an experimental script that has not gone through the same extensive testing as the Confluence and JIRA products.

Getting the migration tool

- Download the attached rpc-tools-0.9.zip.
- Extract the ZIP file to a temporary directory on your computer.

Running the migration tool

- Back up your JIRA database.
- If you do not have an 'admin' username with password 'admin' in both JIRA and Confluence, create it now.
- Ensure JIRA and Confluence have remote API access enabled. In both applications, it is configured in the General Configuration screen in Administration.
- Edit connection.properties in the extracted ZIP file to the set the XML-RPC URLs for JIRA and Confluence. The XML-RPC URLs in the default file correspond to the following application base URLs:
  - JIRA - http://localhost:8080
  - Confluence - http://localhost:8080/confluence
- Run java -jar tools.jar in the extracted ZIP file directory.

A successful run will generate output like the following:

```
$ java -jar tools.jar
- Transferring group: confluence-administrators
- Transferring group: confluence-users
- Transferring user: testuser1
- Transferring user: testuser2
```

Things to note:

- This script requires that both the Confluence and JIRA remote APIs are available and accessible to a username 'admin', password 'admin'. You can temporarily add this user to both system to run the script, then remove it afterwards.
- A random password will be assigned to each user that is transferred because it is not possible to access password information via the XML-RPC API. Therefore they will have retrieve a new password via the password reminder.
- JIRA does not allow users to sign up if they do not have a valid email address. Therefore we will assign them an email address of type username@example.com to any Confluence users that do not have a email address. This will allow you to find the users and help them to create a password or change the email address.

Trouble running the script?

- Ensure you have created a user 'admin' with password 'admin' in both Confluence and JIRA.
- Ensure both applications have remote API access enabled (see above).
- Ensure you have patched the Confluence RPC plugin if running Confluence 2.0.x.

If you're still having trouble, please raise a support request, and include a copy of the error you're getting.

Requesting External User Management Support

If you are having external user management issues with Confluence, and the advice on Add LDAP Integration has not helped, you can always ask us for help. External user management issues can be hard to diagnose, however, and we often spend a lot of time understanding the particular configuration you have. The best way to get a speedy resolution to your issue is to provide this information up front.

Please gather all of the information listed below and include it in your support request (http://support.atlassian.com), even if you think you have a good idea what's causing the problem. That way we don't have to ask for it later.

Confluence server

- Take a screenshot of Confluence's Administration System Information (or save the page as HTML)
- Take a screenshot of Confluence's Administration Global Permissions, if you are having problems with logging in
Take a screenshot of the Space permissions page, if you are having problems with space or page permissions.

Confluence configuration files

- Attach a copy of atlassian-user.xml, found in confluence/WEB-INF/classes
- Attach a copy of osuser.xml, found in confluence/WEB-INF/classes.
- If you have implemented a custom authenticator or in any way modified seraph-config.xml or seraph-paths.xml, please provide the modified files as well.

If you are running Confluence 2.1 you will have to attach the following file instead of atlassian-user.xml

- Attach a copy of atlassianUserContext.xml, found in confluence/WEB-INF/classes.

User management system

- What is the name and version of your LDAP server?
- Does your LDAP server use dynamic or static groups?

Using Active Directory for LDAP?

Please include LDAP Studio Entry Editor snapshots with the information specified on this page.

Diagnostics

- Enable profiling (as described here)
- Enable detailed user management logging by editing confluence/WEB-INF/classes/log4j.properties

To this:

```text
### Atlassian User
###
#log4j.logger.com.atlassian.user=DEBUG, confluencelog
#log4j.additivity.com.atlassian.user=false
#log4j.logger.com.atlassian.confluence.user=DEBUG,console
#log4j.additivity.com.atlassian.confluence.user=false
#log4j.logger.bucket.user=DEBUG,console
#log4j.additivity.bucket.user=false

### Atlassian User
###
log4j.logger.com.atlassian.user=DEBUG, confluencelog
log4j.additivity.com.atlassian.user=false
log4j.logger.com.atlassian.confluence.user=DEBUG,confluencelog
log4j.additivity.com.atlassian.confluence.user=false
log4j.logger.bucket.user=DEBUG,confluencelog
log4j.additivity.bucket.user=false
log4j.logger.com.atlassian.seraph=DEBUG, confluencelog
log4j.additivity.com.atlassian.seraph=false
log4j.logger.com.opensymphony.user=DEBUG, confluencelog
log4j.additivity.com.opensymphony.user=false
```

• After enabling both the above, please attempt a Confluence LDAP account login and attach a copy of the log files that are produced when the problem occurs. To do this, locate your install directory or exploded WAR directory, then zip the full /logs subdirectory into a single file for us to examine. An example location might be confluence-2.2.2-std/logs.

If you are using LDAP, run the External User Test tool and attach a copy of the output to the support ticket.

Paddle

From Confluence version 2.8 the 'External User Test' tool is integrated into the Administration Console, and you can also run it outside of Confluence. In previous versions of Confluence, this tool was available only as a separate utility called 'Paddle'.

- For Confluence 2.8 and later, please refer to Troubleshooting LDAP User Management.
- If you are running an earlier version of Confluence, please refer to the Confluence 2.7 documentation or choose the relevant Confluence version from the list of previous versions on the documentation home page.
- Sometimes for troubleshooting purposes it may still be useful to use the stand-alone Paddle so you don't have to start and stop Confluence each time you test. Place your atlassian-user.xml file in the same directory as the jar file and run java -jar paddle-2.0.jar.
Understanding User Management in Confluence

Components of User Management

1. Authentication - determining what user identity is making a request to Confluence.
2. User management - storing and retrieving core information about users.
3. Group membership - storing and retrieving groups, and group membership.
4. Profile information - providing metadata associated with users.

It's important to understand that these are separate components of the user management system. The term LDAP integration is not really meaningful, because you could use LDAP repository for any or all of the above tasks.

For example, in OSUser authentication can be performed against different repository to that used for group membership queries. In AtlassianUser, authentication and group membership can be retrieved from LDAP, but profile information is still stored in the Confluence database.

Authentication

Seraph

Almost all authentication in Confluence (and JIRA) is performed through Seraph, Atlassian's open source web authentication framework. The goal of seraph is to provide a simple, extensible authentication system that we can use on any application server.

Seraph is implemented as a servlet filter. Its sole job is, given a web request, to associate that request with a particular user (or no user if the request is anonymous). It supports several methods of authentication, including HTTP Basic Authentication, form-based authentication, and looking up credentials already stored in the user's session.

Seraph performs no user management itself. It merely checks the credentials of the incoming request, and delegates any user-management functions (looking up a user, checking a user's password is correct) to Confluence's user-management subsystem.

If you were looking to integrate Confluence with a Single Sign-On (SSO) infrastructure, you would do so by writing a custom Seraph authenticator (and in fact, many customers have done so).

XML-RPC and SOAP Authentication

Normally, requests for Confluence's remote API will include an authentication token as the first argument. With this method of authentication, XML-RPC and SOAP authentication requests are checked directly against the user-management framework, and tokens are assigned directly by the remote API subsystem. These requests do not pass through Seraph authenticators.
However, if the provided token argument is blank, Seraph will be used as a fallback authentication method for remote API requests. So, to use a custom Seraph authenticator with XML-RPC or SOAP requests, ensure that you pass an empty string as the authentication token to remote API methods.

**Password Authentication and User Management**

By default, password authentication is delegated from Seraph to the user management system. This is not necessary, however. Single Sign-On systems may have no password authentication at all, and get all the necessary credentials from the SSO provider.

**Confluence User Management Frameworks**

The rest of this document covers the user management frameworks used by Confluence: AtlassianUser and OSUser.

**AtlassianUser**

AtlassianUser is a new user and group management framework developed by Atlassian, and is the core framework used in Confluence since version 2.1. AtlassianUser was developed with the following goals in mind:

- Support LDAP as a fully functional repository for authentication, group management and profile information (profile information not yet implemented).
- Compatibility with both JIRA and Confluence (JIRA support not yet implemented).
- Be simple to configure.

AtlassianUser provides user, group and profile management services to Confluence. It does so by delegating tasks to configurable repositories. Multiple repositories can be configured, so for example Confluence can draw user information from both the database and an LDAP server.

**Default Configuration**

Configuration of AtlassianUser is done through the `atlassian-user.xml` file. See the `atlassian-user.xml` reference page. (In Confluence 2.1, configuration of AtlassianUser is done through the `atlassianUserContext.xml` file.)

For Confluence 2.7.0 and later:

- All user management is performed by AtlassianUser's native providers.
- OSUser delegation is still supported for customers who rely on the OSUser/JIRA bridge or the old-style OSUser LDAP support.
- Refer to the Confluence 2.7 Upgrade Guide for details of the automatic migration which may occur during the upgrade process, for customers who are using the standard user management framework.

For Confluence 2.6.x and earlier:

- Confluence's AtlassianUser configuration delegates all user, group, profile and password authentication to OSUser.

**Database (Hibernate) Support in AtlassianUser**

AtlassianUser can store user, group and profile data directly in Confluence's database. This is the default behaviour for Confluence 2.7.0 and later.

**LDAP Support in AtlassianUser**

AtlassianUser currently supports password authentication, user management and group management with an LDAP server. Follow the instructions on configuring AtlassianUser LDAP integration.

At this point, only read-only access to LDAP is planned. Java's JNDI-LDAP interface does not support updating an LDAP repository, and the administration tools that come with LDAP servers such as Microsoft Active Directory are generally comprehensive and already available in enterprise IT departments.

**JIRA Integration via AtlassianUser**

AtlassianUser will not support delegating Confluence user management to JIRA. Instead, our goal is to implement AtlassianUser as the JIRA user management framework as well. Once this is done, both Confluence and JIRA can use the same LDAP server for their authentication and group management.

**OSUser**

OpenSymphony User was Confluence's core user management framework until it was replaced by AtlassianUser in version 2.1. OSUser is still supported through AtlassianUser's OSUser repositories. OSUser is also built around the model of pluggable providers, but its LDAP support is limited.

**OSUser Database (Hibernate) Providers**

In its default configuration, Confluence's OSUser providers store a list of users and groups together with profile information in tables in the Confluence database:

- os_user (authentication)
- os_group (group membership)
Confluence 3.0 Documentation

- **os_user_group (group membership)**
- **os_propertyentry (profile information)**

The hashed password in the os_user table is used to authenticate the user unless LDAP support is enabled. The os_user_group table is queried for group membership information.

**OSUser configuration is controlled through the `<confluence-install>\confluence\WEB-INF\classes\osuser.xml` file.**

**LDAP Support in OSUser**

OSUser only supports authentication against an LDAP server. That is, you can check user passwords against LDAP, but all other user information must be shadowed in the Confluence database. Follow the instructions on configuring OSUser LDAP authentication.

If you need support for LDAP user information or group membership as well, you should use AtlassianUser instead (see above).

**Delegating User Management to JIRA via OSUser**

Confluence can use OSUser to retrieve information for authentication, group membership and profile information from JIRA.

If you look at the discussion of OSUser's implementation above, you can see how this can work pretty easily. A data source to JIRA database is configured in Confluence which lets Confluence read directly from JIRA's os_* tables. For example, when a user is created in JIRA, the username and password goes in the os_user table in the JIRA database. Confluence looks at the same table in the JIRA database to authenticate the user.

Access to the JIRA database is read-only. For this reason, Confluence maintains a subset of the user's profile information locally in the Confluence database (things like last login time and user preferences that Confluence needs to be able to modify).

Follow the instructions on configuring OSUser delegation to JIRA.

**Related pages**

- HTTP authentication with Seraph
- Single Sign-on Integration with JIRA and Confluence
- Add LDAP Integration
- LDAP Authentication with OSUser
- Delegate user management to use JIRA logins
- Migrating to new User Management
- Confluence 2.7 Upgrade Guide
- atlassian-user.xml reference

**User Management Frequently Asked Questions**

This page has been split into the LDAP FAQ and JIRA Integration FAQ.

**Configuration Guide**

The Configuration Guide contains instructions on installing and configuring Confluence. If you cannot find what you are looking for, try the Search box in the top right-hand corner.

**TOPICS**

**Installation and Setup**

- Requirements
- Installing Confluence Standalone
- Installing Confluence EAR-WAR
- Confluence Setup Guide
- Confluence Cluster Installation

**Upgrading Confluence**

- Upgrading Confluence
- Release Notes

**General Guides**

- Start Confluence automatically on system startup
- Known Issues with Enterprise or Webhosting environments
- Pull down RSS Feeds or use the Repository plugin through a web proxy
- Setting the JAVA_HOME Variable in Windows
- Setup a mail session in standalone version
- Confluence Home Directory
Configure Web Proxy Support for Confluence
Confluence Clustering Overview

Web Server Configuration

Running Confluence behind Apache
Setting up Confluence with IIS
Using Apache with mod_proxy
Using Apache with mod_jk

Application Server Configuration

Read about installing the Confluence EAR-WAR distribution on an application server.

- Installing Confluence EAR-WAR on Tomcat
- Installing Confluence EAR-WAR on Weblogic
- Installing Confluence EAR-WAR on WebSphere
- Installing Confluence EAR-WAR on Resin
- Installing Confluence EAR-WAR on JBoss

Database Configuration

Read about configuring Confluence with an external database.

- Migrate to Another Database
- List Of Supported Databases
- Database Setup Guides
- Creating Database Schema Manually
- Known Issues For Supported Databases
- Improving Database Performance
- Troubleshooting External Database Connections
- Troubleshooting the Embedded Database (hSQL DB)
- Upgrading From HSQL 1.7.1 to 1.8

RELATED CONTENT

Documentation Home
Administrators Guide
Frequently Asked Questions
Confluence Community
Development Hub
Plugins and Extensions

Application Server URL encoding

Application servers may have different settings for character encodings. We strongly suggest setting this to UTF-8 where possible.

Information on setting the character encoding is available at:

- Configuring Tomcat's URI encoding

Configuring Tomcat's URI encoding

By default, Tomcat uses ISO-8859-1 character encoding when decoding URLs received from a browser. This can cause problems when Confluence's encoding is UTF-8, and you are using international characters in attachment or page names.

1. Edit `conf/server.xml` and find the line where the Coyote HTTP Connector is defined. It will look something like this, possibly with more parameters:

   ```xml
   <Connector port="8080"/>
   ```

2. Add a `URIEncoding="UTF-8"` property to the connector:

   ```xml
   <Connector port="8080" URIEncoding="UTF-8"/>
   ```

3. Restart Tomcat

   If you are using mod_jk

   You should apply the same URIEncoding parameter as above to the AJP connector if you are using mod_jk, and add the following option to
Confluence 3.0 Documentation

More information using Apache with Tomcat

For comprehensive examples of how to use Tomcat and Apache with Confluence, see Running Confluence behind Apache.

Confluence Installation Guide

Welcome to the Confluence Installation Guide!

What is Confluence?

Confluence is an enterprise wiki that makes it easy for your team to collaborate and share knowledge. A wiki is a web application that lets you edit web pages easily and immediately. No waiting, just click, type, and click again.

Want one? Let's go!

Before you Start

Please check the following points:

1. Make sure that your system meets the minimum requirements to run Confluence:
   - If you are installing Confluence for evaluation purposes, it should be pretty easy. You can use the Confluence Installer for Windows or Mac, or the zip archives. You will need a web browser — we recommend Firefox or Internet Explorer.
   - For production installations, use the zip archives. Please read the detailed system requirements.
2. Please verify that this version of the Confluence documentation matches that of the Confluence version you are installing. The Confluence documentation version you are currently viewing is indicated toward the top of the page tree on the left or in the 'breadcrumb trail' in the top banner of this page. If you need to access a different version of the Confluence documentation, use the control at the top of the page tree on the left or you can access it from the documentation home page.

Installing and Setting Up Confluence

Two phases: Installation and Setup

There are two phases to the Confluence installation and setup procedure. The instructions on this and following pages will lead you through both phases. Overview:

- **Install Confluence onto your computer.** We provide detailed instructions for installing the Standalone distribution and the EAR/WAR distribution.
- **Provide initial setup information.** The Setup Wizard will prompt you for the information needed to get you up and running.

Choose the type of Confluence installation you’d like from the table below, and follow the link(s) to the remaining installation instructions. When you have finished the installation phase, you will be prompted to start the setup phase.

<table>
<thead>
<tr>
<th>Installation Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic installer for Windows or Evaluation Installer for Mac OS X</td>
<td>These are the simplest options for installing and evaluating Confluence. Choose these options if you wish to evaluate Confluence on a Windows- or a Mac OS X-based system. These installers are specialised versions of the Standalone distribution (below) that should only be used to evaluate Confluence.</td>
</tr>
</tbody>
</table>
### Standalone distribution

The 'Standalone' distribution provides the simplest method of installing Confluence for long term or production use. Choose this option if any of the following is true:

- You are evaluating Confluence and may likely use this installation for long term or production purposes.
- You want to run the Confluence application on the Apache Tomcat application server bundled with this distribution.
- You are not sure what you want, except to get Confluence up and running with minimum fuss.

### EAR/WAR distribution

This distribution allows you to deploy Confluence onto your own existing application server, instead of the Apache Tomcat server bundled with the Standalone distribution.

### Confluence Clusters

Please read the Confluence Clustering Overview and the Cluster Checklist before you consider installing Confluence in a cluster.

### Upgrading Confluence

Choose this option if you want to upgrade an existing Confluence installation to a new release of Confluence.

---

**RELATED TOPICS**

- Upgrading Confluence
- System Requirements

**Confluence Cluster Installation**

**Overview**

There are two methods of installing Confluence in a cluster, depending on whether you have existing data. This page describes a fresh installation with no existing data.

See also Confluence Cluster Installation with Existing Data.

---

**Oracle Coherence Licensing Change:**

- Due to a license agreement change between Atlassian and Oracle over the Coherence technology, from September 2009, Confluence will be made available in two editions:
  - Standard Edition — Confluence with Ehcache's caching technology (available to customers with non-clustered Confluence licenses).
  - Clustered Edition — Confluence with Oracle's Coherence clustering and distributed caching technology (available to customers with Confluence clustered licenses only).

  If you are currently running a clustered installation of Confluence, please do not upgrade it with a standard edition of Confluence.

  If you have a Confluence clustered license, are running a clustered installation of Confluence and wish to upgrade to Confluence version 2.6 or later after late September 2009, please ensure that you download only a clustered edition of Confluence and please refer to the Confluence 3.0.1 Upgrade Notes for additional upgrade information.

---

**Installation with no existing data**

To get Confluence running in a two-node cluster, you must do the following:

1. Ensure you meet the clustering requirements, including obtaining a clustered license key from Atlassian for each node
2. Install Confluence on a single node, configuring an external database and a cluster name
3. Load test the single node installation, see whether clustering is required
4. Shut down the first node, copy the Confluence application and Confluence home directory to the second node
5. Start the first node, wait until it is running, then bring up the second node and it will automatically join the cluster
6. Test the cluster is working correctly
7. Configure a load balancer in front of the two clustered nodes.

Each of these steps will be described in detail below.

---

### 1. Clustering requirements

Your Confluence cluster installation must meet all the following criteria for clustering:

- you must be running Confluence 2.3 or later
- you must have a clustered license
- you must use an external database
- you must use a load balancer with session affinity in front of the cluster.

Clustered commercial licenses may be purchased through Confluence website. Clustered evaluation licenses may be obtained by emailing sales@atlassian.com.
A cluster can run using two copies of Confluence Standalone. However, cluster administrators must understand how to configure an application server and web server with load balancing, so we recommend you are comfortable installing Confluence as a EAR/WAR in your application server before proceeding with a clustered installation.

2. Installation on first node

Cluster administrators should already be comfortable with the normal installation method, so it won't be repeated here. There are two differences in the Confluence Setup Wizard from a normal installation:

- you must use an external database
- you must enter a cluster name.

![Enter a cluster name to create a new cluster](image)

**Technical note**
The cluster name will be converted into a unique multicast IP address and port for your Confluence cluster. UDP multicast traffic is used for Confluence to automatically discover other nodes in the cluster when they start up.

3. Load test the single node

Most Confluence installations do not need to be clustered. Ensure you have tested your single node installation with the number of users you expect to host before going ahead with the additional complexity of clustering.

Check out our performance tuning tips for ways to improve the performance of a single instance of Confluence.

You can upgrade your single node to a multi-node cluster at any time by resuming this guide from step 4 below.

4. Copy Confluence to second node

Confluence clusters must use the same JDK, application server and application. The easiest way to ensure this is to shut down Confluence on the first node, then copy its web application and home directory to the second node:

1. Shut down Confluence on node #1.
2. Shut down your application server on node #2, or stop it automatically loading web applications.
3. Copy the Confluence web application from node #1 to node #2.
4. Copy the Confluence home directory from node #1 to node #2.

Copying the web application ensures any modifications you have made to the application itself, custom LDAP settings (`atlassian-user.xml`), and any other advanced configuration are copied to node #2.

Copying the home directory ensures the Confluence search index (the `index/` directory), the database and cluster configuration (`confluence.cfg.xml`), and any other home directory settings are copied to node #2.

5. Start Confluence on the first node, wait, then start Confluence on second node

For the most stable start-up process, it is important to start Confluence one server at a time.

1. Start Confluence on node #1.
2. Wait for Confluence to become available on node #1.
3. Start Confluence on node #2.
4. Wait for Confluence to become available on node #2.

6. Test cluster connectivity

The Cluster Administration page (Administration, Cluster Configuration) includes information about the active cluster. When the cluster is running properly, this page displays:

- a correct count of the nodes in the cluster
- a status display for each node in the cluster
- an uptime for each node that is accurate.
A simple process to ensure your cluster is working correctly is:

1. Create a new document on node #1
2. Ensure the new document is visible by accessing it directly on node #2
3. Wait one minute (Confluence does batch indexing once per minute)
4. Search for the new document on node #1, ensure it appears
5. Search for the new document on node #2, ensure it appears.

**Technical note**
If Confluence detects more than one instance accessing the database but not in a working cluster, it will shut itself down in a *cluster panic*. This can be fixed by troubleshooting the network connectivity of the cluster.

### 7. Configure load balancer

For the moment, configuring the load balancer is outside the scope of this document.

However, a simple Apache and Tomcat load-balancing configuration is available, which includes sample configuration for the Apache Tomcat and the Apache web server, using its load-balancing JK connector.

**Troubleshooting**

If you have problems with the above procedure, please see our [Cluster Troubleshooting guide](#).

**Upgrading a cluster**

It is important that upgrades follow the procedure for [Upgrading a Confluence Cluster](#).

**Related documentation**

- Overview of Confluence Clusters
- Clustering in Confluence
- Confluence Cluster Installation with Existing Data
- Confluence Installation Guide
- Upgrading a Confluence Cluster
- Cluster Administration page

### Apache and Tomcat load balancing

**Overview**

The following is a description of how to setup a Confluence Cluster on a Windows machine using Apache and mod_jk to handle the loadbalancing.

The characteristics of this cluster are:

- Session affinity: sessions are associated with single servers.
- Failover: if a server dies, a connection will be directed to the nearest available server. (NOTE: sessions are not replicated)
- Failback: when a server comes back online, it will rejoin the cluster.
- Weighted load balancing: the load balancing can be controlled to take into account machine differences. (See the mod_jk documentation for details on this.)

**What do you need?**

1. Download and install one copy of Apache httpd. Do not install Apache as a service, but set it to listen on port 8080. (Tested with Apache httpd 2.0.55.)
2. Download the latest version of mod_jk. Copy this file into the Apache modules/ directory and rename it to mod_jk.so. (Tested with mod_jk-1.2.19.)
3. Download and extract one copy of the ZIP distribution of Apache Tomcat. (Tested with Tomcat 5.5.)

Apache configuration

Edit the main Apache config file, conf/http.conf:

- add the following immediately after the other LoadModule directives:

  ```
  LoadModule jk_module modules/mod_jk.so
  ```

- add the following just before the end of the file:

  ```
  JkWorkersFile conf/workers.properties
  JkLogFile logs/mod_jk.log
  JkLogLevel info
  JkMount /confluence loadbalancer
  JkMount /confluence/* loadbalancer
  ```

Create a workers.properties file in the Apache conf/ directory. This version of the workers.properties file is configured to use 2 Tomcat instances: tomcat1 and tomcat2.

```properties
worker.list=loadbalancer
worker.tomcat1.port=18080
worker.tomcat1.host=localhost
worker.tomcat1.type=ajp13
worker.tomcat1.lbfactor=1
worker.tomcat2.port=28080
worker.tomcat2.host=localhost
worker.tomcat2.type=ajp13
worker.tomcat2.lbfactor=1
worker.loadbalancer.type=lb
worker.loadbalancer.balanced_workers=tomcat1, tomcat2
worker.loadbalancer.method=Busyness
```

Tomcat configuration

The Tomcat configuration below will run multiple instances from the same binaries in the main Tomcat directory. For complete documentation of this configuration, see the RUNNING.txt file in the Tomcat distribution.

Create instance home directories

Create a directory for each instance of Tomcat, somewhere outside where you installed Tomcat. For example, if you extracted Tomcat to /opt/apache/tomcat-5.5, your instances could be in /var/tomcat-instances/tomcat1, /var/tomcat-instances/tomcat2. These folders will be referred to as the instance home directories.

Copy the following folders from the Tomcat installation directory into each instance home directory. Some of the folders may be empty, but copy them anyway.

- conf
- logs
- shared
- webapps

Configure server.xml in each instance

Edit conf/server.xml in the instance home directories to include the Confluence application and have distinct listen ports for Server, HTTP Connector and AJP13 Connector. All nodes can use the same Confluence webapp as long as you set confluence.home via a system property (see startup scripts below).

Attached are two sample configurations:

- tomcat1/conf/server.xml - listens on port 18080 (http) and 18081 (ajp13)
- tomcat2/conf/server.xml - listens on port 28080 (http) and 28081 (ajp13)

To use these sample config files, you will need to edit them to set the Confluence web-app location and the data source configuration.

If editing the configuration files yourself, the points to note are:

- 'Server' port must be distinct
- 'Connector' for HTTP must be uncommented and use a distinct port. Use this port for testing the node individually.
- 'Connector' for AJP13 must be uncommented and use a distinct port. This port must match the port of the worker in the Apache
workers.properties.
- 'Engine' for localhost must have jvmRoute matching the name of the worker in Apache's workers.properties.
- 'Context' for Confluence must be added inside the 'Host' tag, and include a 'Resource' for the datasource, as per normal Confluence installation under Tomcat.

Create a startup script for each instance

The startup scripts for each instance must set the CATALINA_BASE environment variable and confluence.home system property. The variables in the sample scripts below should reference:
- CATALINA_HOME - Tomcat installation directory
- CATALINA_BASE - Tomcat instance home directory (distinct for each node)
- JRE_HOME - Java runtime directory
- JAVA_OPTS - include a confluence-home system property (distinct for each node)

```bash
set CATALINA_HOME=C:\home\mryall\opt\apache\apache-tomcat-5.5.16
set CATALINA_BASE=C:\home\mryall\var\tomcat-instances\tomcat1
set JRE_HOME=C:\Java\jre1.5.0_06
set JAVA_OPTS=-Dconfluence.home=C:\home\mryall\data\confluence\cluster\tomcat1 -Xmx512m
%CATALINA_HOME%\bin\startup.bat
```

```bash
set CATALINA_HOME=C:\home\mryall\opt\apache\apache-tomcat-5.5.16
set CATALINA_BASE=C:\home\mryall\var\tomcat-instances\tomcat2
set JRE_HOME=C:\Java\jre1.5.0_06
set JAVA_OPTS=-Dconfluence.home=C:\home\mryall\data\confluence\cluster\tomcat2 -Xmx512m
%CATALINA_HOME%\bin\startup.bat
```

Continue setting up Confluence

Follow the Confluence Cluster Installation procedure with the steps following the app server setup.

Troubleshooting

General advice

The above tomcat configurations enable HTTP connectors on each Tomcat instance so that you can connect to the nodes individually. To check whether the load balancer (Apache & mod_jk) is causing the problem, try connecting to the individual Tomcat instances. Please note that you should not allow users to directly access individual nodes in production mode: You don't want people to bookmark nodes since the node details might change, or single nodes may be taken out of the cluster for maintenance while the cluster itself is still available.

Session-affinity doesn’t seem to be working?

Ensure the name you use for your worker in workers.properties (e.g. tomcat1) matches the jvmRoute attribute of the engine tag in your Tomcat server.xml. For an example, search for 'Engine' in the attached sample config.

For troubleshooting your Confluence cluster, see Cluster Troubleshooting.

References

General


Tomcat Clustering support

http://tomcat.apache.org/tomcat-3.3-doc/mod_jk-howto.html
Clustering and Load Balancing in Tomcat 5, Part 1
Clustering and Load Balancing in Tomcat 5, Part 2

Confluence Cluster Installation with Existing Data

Overview

There are two methods of installing Confluence in a cluster, depending on whether you have existing data. This page describes how to upgrade an existing Confluence instance into a cluster.

See also Cluster installation without existing data.
Oracle Coherence Licensing Change:

- Due to a license agreement change between Atlassian and Oracle over the Coherence technology, from September 2009, Confluence will be made available in two editions:
  - **Standard Edition** — Confluence with Ehcache’s caching technology (available to customers with non-clustered Confluence licenses).
  - **Clustered Edition** — Confluence with Oracle’s Coherence clustering and distributed caching technology (available to customers with Confluence clustered licenses only).
- If you are currently running a clustered installation of Confluence, please do not upgrade it with a standard edition of Confluence.
- For more information about these changes, please refer to the Coherence License Changes document.
- If you have a Confluence clustered license, are running a clustered installation of Confluence and wish to upgrade to Confluence version 2.6 or later after late September 2009, please ensure that you download only a clustered edition of Confluence and please refer to the Confluence 3.0.1 Upgrade Notes for additional upgrade information.

---

**Cluster installation from an existing copy of Confluence**

To upgrade an existing copy of Confluence to run in a two-node cluster, you must do the following:

1. Ensure that your standalone version of Confluence has been upgraded to the version you want to run the Cluster on. **Do not upgrade your version of Confluence and switch to the clustered version at the same time.** First upgrade your system (e.g. from Confluence 2.5.8 Standalone to 2.7.1 Standalone) and make sure everything works fine (e.g. for a week) before switching (e.g. from Confluence 2.7.1 Standalone to 2.7.1 Clustered)
2. Ensure you meet the clustering requirements, including obtaining a clustered license key from Atlassian for each node
3. Due to CONF-8959, you need to perform attachment migration to the database before you change your license to a clustered license
4. Upgrade the existing Confluence instance to a clustered license
5. Enable clustering and select a cluster name
6. Shut down the first node, copy the Confluence application and Confluence home directory to the second node
7. Start the first node, wait until it is running, then bring up the second node and it will automatically join the cluster
8. Test the cluster is working correctly
9. Configure a load balancer in front of the two clustered nodes.

Each of these steps will be described in detail below.

### 1. Clustering requirements

Your Confluence cluster installation must meet all the following criteria for clustering:

- you must be running Confluence 2.3 or later
- you must have a clustered license
- you must use an external database
- you must use a load balancer with session affinity in front of the cluster.

Clustered commercial licenses may be purchased through Confluence website. Clustered evaluation licenses may be obtained by emailing sales@atlassian.com.

A cluster can run using two copies of Confluence Standalone. However, cluster administrators must understand how to configure an application server and web server with load balancing, so we recommend you are comfortable installing Confluence as a EAR/WAR in your application server before proceeding with a clustered installation.

You can follow the instructions to Migrate Confluence to an external database.

### 2. Upgrade existing instance to clustered license

Once you've obtained your clustered license from Atlassian, you can simply update the license in your running Confluence instance:

1. Go to 'Administration'.
2. Go to 'License Details', and paste in the new license.
3. Click 'Save'.

When you enter a clustered license, you will see a new line appear on this page: Licensed Clustered Nodes. This tells you how many nodes your Confluence license will allow.
License Details page shows the number of cluster nodes permitted

3. Enable clustering and select a cluster name

When you change Confluence to use a cluster license, a new menu option will be revealed on the left: Cluster Configuration. Open this menu item to configure your cluster.

On this page, you need to enter a name for your cluster, and possibly select which network interface on your server will be used for the cluster (only if you have more than one suitable interface).

Clicking ‘Start cluster’ will migrate your attachments to the database, then prevent any access to Confluence until it is restarted.

Technical note
The cluster name will be converted into a unique multicast IP address and port for your Confluence cluster. UDP multicast traffic is used for Confluence to automatically discover other nodes in the cluster when they start up.

4. Copy Confluence to second node

For the remaining steps in setting up a cluster with existing data, please continue from step 4 in the normal Confluence cluster installation guide.

5. Start Confluence on the first node, wait, then start Confluence on second node

See comment in step 4.

6. Test cluster connectivity

See comment in step 4.

7. Configure load balancer

See comment in step 4.

Troubleshooting

If you have problems with the above procedure, please see our Cluster Troubleshooting guide.

Upgrading a cluster

It is important that upgrades follow the procedure for Upgrading a Confluence Cluster.

Related documentation

Overview of Confluence Clusters
Confluence Cluster Installation
Confluence Installation Guide
Upgrading a Confluence Cluster
Confluence User Guide

Upgrading a Confluence Cluster

This page contains instructions for upgrading an existing Confluence cluster to a new version of Confluence. If you are not running a clustered instance of Confluence and wish to, see Confluence Cluster Installation with Existing Data.
Oracle Coherence Licensing Change:

- Due to a license agreement change between Atlassian and Oracle over the Coherence technology, from September 2009, Confluence will be made available in two editions:
  - **Standard Edition** — Confluence with Ehcache's caching technology (available to customers with non-clustered Confluence licenses).
  - **Clustered Edition** — Confluence with Oracle's Coherence clustering and distributed caching technology (available to customers with Confluence clustered licenses only).

  \* If you are currently running a clustered installation of Confluence, please do not upgrade it with a standard edition of Confluence.
- For more information about these changes, please refer to the Coherence License Changes document.
- If you have a Confluence clustered license, are running a clustered installation of Confluence and wish to upgrade to Confluence version 2.6 or later after late September 2009, please ensure that you download only a clustered edition of Confluence and please refer to the Confluence 3.0.1 Upgrade Notes for additional upgrade information.

You can download the latest version of Confluence from here.

**Overview**

The steps involved in upgrading a multi-node Confluence cluster are:

1. Backup your confluence instance.
2. Read the Release Notes for this version and check you have the required expertise to perform the upgrade.
3. Stop each node in the cluster.
4. Install the new version into the application server on the first node.
5. Install the new version into the application server onto the remaining nodes.

**Step One: Backing up**

We highly recommend that you backup your Confluence home and install directories and your database before proceeding.

For specific files to backup see Upgrading Confluence.

**Step Two: Things you need to check ...**

- Always check the release-notes for the version of Confluence you are installing for upgrade instructions specific to that version.
- To perform this upgrade you must be familiar with the usage of the application server running your Confluence Cluster, and the web server load balancing it.
- Check the Configuration Guide for your application server and database, to make sure there isn't anything extra you need to do to get Confluence running.
- Check that you know what configurations or customisations have been made to your Confluence instance. These may include specialised user management configurations and changes to Confluence's Java classes and Velocity templates.

**Step Three: Stopping the cluster**

It is vital that all nodes in the cluster are running the same version of Confluence. That's why the first step is to stop all the nodes.

Stop the Confluence application on each node using your application server.

**Step Four: Upgrading the first node**

We advise configuring your load balancing web server to redirect traffic away from Confluence until the upgrade is complete on multiple nodes.

Upgrading a cluster node uses the same process as Upgrading Confluence.

1. Unzip the new version.
2. Edit its confluence-init.properties to point to the existing home directory.
3. Port any immediately required customisations from the old version to the new one. Eg atlassian-user.xml.
4. Install the new version into the application server. Eg for Tomcat edit confluence.xml or server.xml to point to the new location, and restart Tomcat.
5. Wait for the Node to finish upgrading and confirm that you can log in and view pages before continuing to Step Five.
6. Port any additional customisations from the old version to the new version. Eg modifications to Java classes or Velocity templates.

**Step Five: Upgrading other nodes**
Copy the confluence installation, complete with customisations, to the next node.

1. Edit its confluence-init.properties to point to the existing home directory.
2. Install the new version into the application server. Eg for Tomcat 5 edit confluence.xml to point to the new location, and restart Tomcat.
3. Wait for the Node to finish upgrading and confirm that you can log in and view pages before continuing with the next node.

Troubleshooting

For suggested troubleshooting techniques, see our Cluster Troubleshooting page.

Related documentation

Overview of Confluence Clusters
Confluence Installation Guide
Cluster Troubleshooting
Confluence Cluster Installation
Confluence Cluster Installation with Existing Data
Confluence User Guide

Confluence Unix and X11 Dependencies

Java X11 Dependencies

On Unix-based operating systems, the Java runtime makes use of certain parts of the platform's native X11 graphics libraries. The X Server does not have to be running, but the libraries must be available on the server. Confluence will run on a server that does not have Xlib installed, but parts of the application that manipulate graphics: PDF exports, image thumbnailing, the image gallery macro, CAPTCHA, and the resizing of profile pictures, will fail.

Mac OS X
You do not need to install X11 on Mac OS X, as it has its own graphics libraries.

If X11 is not present, you may see any of the following errors

- "This Confluence installation can not generate thumbnails: no image support in Java runtime"
- "Exception in thread "main" java.lang.UnsatisfiedLinkError: /usr/local/j2sdk1.4.2_09/jre/lib/i386/libawt.so: libXp.so.6: cannot open shared object file: No such file or directory" when exporting a PDF
- "NoClassDefFoundError" when uploading a profile picture

If This Doesn't Help
If you have X11 installed and thumbnailing still does not work, please ensure that you are running Java in headless mode — see the FAQ entitled Confluence doesn't generate thumbnails.

Specific Installation Instructions

Fedora Core

On Fedora Core, you will need to install the xorg-x11-deprecated-libs package. (https://bugzilla.redhat.com/bugzilla/show_bug.cgi?id=130239)

Fedora Core 6, RHEL 5

- libXp
- libXp-devel (if you wish to compile against this library)

Debian Linux

On Debian, you will need to install the following packages (CONF-6411):

```
apt-get install libx11-6 libx11-dev libxt6 libxt6-dbgl libxtst6 libxtst-dev libxtst6-xlibs-dbg xlibs-dev
```

You'll only need the xlibs-dbg package if you're running an older version of Debian (3.0). It's a dummy package for smoothing the transition to a new set of graphics libraries, so if you can't locate it, you most likely don't need it.

Gentoo Linux

```
emerge libICE libSM libX11 libXext libXp libXt libXtst
```
Solaris 10

Please refer to the following forum for more information.

Ubuntu

Execute the following:

```bash
> sudo apt-get install libx11-6 libx11-dev libxdt6 libxdt6-dbg libxext6 libxext-dev libxst6 xlibs-dbg xlibs-dev
```

Note: `sudo` enables you to be superuser for one operation. You will need to supply your user password.

Example Size & Hardware Specifications From Customer Survey

Below are the results of a survey conducted by Atlassian in July 2007, showing some capacity statistics for Confluence users. The figures are broken down by industry and number of users.

<table>
<thead>
<tr>
<th>Num Users</th>
<th>Length of time in production</th>
<th>Database</th>
<th>Application Server</th>
<th>Num CPUs/Cores</th>
<th>Physical Memory/RAM</th>
<th>Operating System</th>
<th>Satisfactory with Confluence Performer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking/Finance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 - 50</td>
<td>3-6 Months Ago</td>
<td>Microsoft SQL Server</td>
<td>Standalone/Apache Tomcat</td>
<td>2</td>
<td>2G</td>
<td>Windows</td>
<td>Neutral</td>
</tr>
<tr>
<td>26 - 50</td>
<td>2 Years Ago</td>
<td>Sybase ASE</td>
<td>Weblogic</td>
<td>&gt;8</td>
<td>&gt;16G</td>
<td>Unix</td>
<td>Satisfied</td>
</tr>
<tr>
<td>51 - 250</td>
<td>3-6 Months Ago</td>
<td>Oracle</td>
<td>Standalone/Apache Tomcat</td>
<td>2</td>
<td>4G</td>
<td>Unix</td>
<td>Neutral</td>
</tr>
<tr>
<td>501 - 1,000</td>
<td>3-6 Months Ago</td>
<td>Microsoft SQL Server</td>
<td>Websphere</td>
<td>2</td>
<td>2G</td>
<td>AIX</td>
<td>Satisfied</td>
</tr>
<tr>
<td>1,001 - 5,000</td>
<td>3-6 Months Ago</td>
<td>Oracle</td>
<td>Standalone/Apache Tomcat</td>
<td>2</td>
<td>4G</td>
<td>Windows</td>
<td>Satisfied</td>
</tr>
<tr>
<td>1,001 - 5,000</td>
<td>2 Years Ago</td>
<td>Oracle</td>
<td>Websphere</td>
<td>4</td>
<td>&gt;16G</td>
<td>Solaris</td>
<td>Extremely Satisfied</td>
</tr>
<tr>
<td>5,001 - 10,000</td>
<td>10-12 Months Ago</td>
<td>Microsoft SQL Server</td>
<td>Standalone/Apache Tomcat</td>
<td>4</td>
<td>16G</td>
<td>Linux</td>
<td>Satisfied</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-25</td>
<td>2 Years Ago</td>
<td>DB2</td>
<td>Standalone/Apache Tomcat</td>
<td>2</td>
<td>2G</td>
<td>Linux</td>
<td>Satisfied</td>
</tr>
<tr>
<td>26 - 50</td>
<td>10-12 Months Ago</td>
<td>MySQL</td>
<td>Standalone/Apache Tomcat</td>
<td>2</td>
<td>2G</td>
<td>Linux</td>
<td>Extremely Satisfied</td>
</tr>
<tr>
<td>51 - 250</td>
<td>&lt;3 Months Ago</td>
<td>Oracle</td>
<td>Standalone/Apache Tomcat</td>
<td>1</td>
<td>1G</td>
<td>Windows</td>
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<tr>
<td>51 - 250</td>
<td>10-12 Months Ago</td>
<td>Oracle</td>
<td>Standalone/Apache Tomcat</td>
<td>1</td>
<td>2G</td>
<td>Unix</td>
<td>Extremely Satisfied</td>
</tr>
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<tr>
<td>251 - 500</td>
<td>7-9 Months Ago</td>
<td>Oracle</td>
<td>Standalone/Apache Tomcat</td>
<td>1</td>
<td>1G</td>
<td>Mac OS X</td>
<td>Satisfied</td>
</tr>
<tr>
<td>1,001 - 5,000</td>
<td>7-9 Months Ago</td>
<td>Microsoft SQL Server</td>
<td>JBoss</td>
<td>2</td>
<td>4G</td>
<td>Linux</td>
<td>Satisfied</td>
</tr>
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<td>Entertainment</td>
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<td>1,001 - 5,000</td>
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<td>PostgreSQL</td>
<td>Standalone/Apache Tomcat</td>
<td>2</td>
<td>8G</td>
<td>Linux</td>
<td>Extremely Satisfied</td>
</tr>
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<td>Government</td>
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<tr>
<td>Technology</td>
<td>51 - 250 2 Years Ago</td>
<td>MySQL</td>
<td>Standalone/Apache Tomcat</td>
<td>2</td>
<td>2G</td>
<td>Mac OS X</td>
<td>Extremely Satisfied</td>
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<tr>
<td>Telecommunications &amp; Media</td>
<td>501 - 1,000 7-9 Months Ago</td>
<td>MySQL</td>
<td>Standalone/Apache Tomcat</td>
<td>1</td>
<td>2G</td>
<td>Linux</td>
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<tr>
<td>1-25</td>
<td>3-6 Months Ago</td>
<td>Standalone/HSQLE</td>
<td>Standalone/Apache Tomcat</td>
<td>1</td>
<td>Linux</td>
<td>Satisfied</td>
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<tr>
<td>1-25</td>
<td>7-9 Months Ago</td>
<td>MySQL</td>
<td>Standalone/Apache Tomcat</td>
<td>1</td>
<td>2G</td>
<td>Linux</td>
<td>Satisfied</td>
</tr>
<tr>
<td>26 - 50</td>
<td>10-12 Months Ago</td>
<td>MySQL</td>
<td>Standalone/Apache Tomcat</td>
<td>2</td>
<td>2G</td>
<td>Linux</td>
<td>Satisfied</td>
</tr>
</tbody>
</table>

### Get A Confluence Licence

Need a Confluence licence or licence key?

- If you do not yet have a licence, you can get a free multi-user Evaluation licence or two-user Personal licence immediately.
- If you already have a Confluence licence, you can retrieve your key or generate a new key from the Licence Viewer.
- For enterprise, non-profit, open source and educational licences, see Confluence Licencing and Pricing.
- If you can’t find your key or are having problems, contact sales@atlassian.com.

### Installing Confluence Standalone

Choose the type of Confluence Standalone installer you’d like from the table below and follow the link to the installation instructions. When you have finished the installation phase, you will be prompted to start the setup phase.

If you have not already done so, please verify that this version of the Confluence documentation matches that of the Confluence version you are installing. The Confluence documentation version you are currently viewing is indicated toward the top of the page tree on the left or in the ‘breadcrumb trail’ in the top banner of this page. If you need to access a different version of the Confluence documentation, use the control at the top of the page tree on the left or you can access it from the documentation home page.

<table>
<thead>
<tr>
<th>Confluence Standalone installer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic installer for Windows or Evaluation Installer for Mac OS X</td>
<td>These are the simplest options for installing and evaluating Confluence. Choose these options if you wish to evaluate Confluence on a Windows- or a Mac OS X-based system. These installers are specialised versions of the Standalone distribution that should only be used to evaluate Confluence.</td>
</tr>
<tr>
<td>Windows zip file</td>
<td>Instructions for installing Windows-based Confluence production systems using the Confluence Standalone Windows zip file installer.</td>
</tr>
<tr>
<td>Mac OS X gzipped tar file</td>
<td>Instructions for installing Mac OS X-based Confluence production systems using the Confluence Standalone gzipped tar file installer.</td>
</tr>
<tr>
<td>Linux/Unix gzipped tar file</td>
<td>Instructions for installing Linux- or Unix-based Confluence production systems using the Confluence Standalone gzipped tar file installer.</td>
</tr>
</tbody>
</table>

The Standalone distribution includes Apache Tomcat as the standalone application server. If you want to install an EAR/WAR distribution for deployment on your own existing application server, please refer to Installing the Confluence EAR-WAR Distribution.

### Installation Videos

Check out our installation videos for Windows or Mac.

Take me back to the Confluence Installation Guide.

### Change listen port for Confluence Standalone
Problem

This page tells you what to do if you get errors like the following when starting Confluence Standalone, and can't access Confluence on port 8080.

```java
java.net.BindException: Address already in use: JVM_Bind:8080
```

This means you are running other software on Tomcat's default port 8080. This may either be another Tomcat or some other process. It may also be a previous instance of Confluence that hasn't been shut down cleanly.

To find out what process is listening on that port, load a command prompt and type: `netstat -an`

- `netstat -a`: Displays all active TCP connections and the TCP and UDP ports on which the computer is listening.
- `netstat -n`: Displays active TCP connections, however, addresses and port numbers are expressed numerically and no attempt is made to determine names.

There is also Process Explorer tool available to determine what is binding port 8080.

Solution: Change the Ports which Confluence Listens On

To change the ports for Confluence Standalone, open the file `conf/server.xml` under your Confluence Installation directory. The first four lines of the file look like this:

```xml
<Server port="8000" shutdown="SHUTDOWN" debug="0">
  <Service name="Tomcat-Standalone">
    <Connector className="org.apache.coyote.tomcat4.CoyoteConnector" port="8080" minProcessors="5" maxProcessors="75" enableLookups="true" redirectPort="8443" acceptCount="10" debug="0" connectionTimeout="20000" useURIValidationHack="false"/>
  </Service>
</Server>
```

You need to modify both the `server` port (default is 8000) and the `connector` port (default is 8080) to ports that are free on your machine. Hint: You can use netstat to identify free ports on your machine. See more information on using netstat on Windows or on Linux.

For example, here are the first four lines of a modified `server.xml` file, using ports '8015' and '8090':

```xml
<Server port="8015" shutdown="SHUTDOWN" debug="0">
  <Service name="Tomcat-Standalone">
    <Connector className="org.apache.coyote.tomcat4.CoyoteConnector" port="8090" minProcessors="5" maxProcessors="75" enableLookups="true" redirectPort="8443" acceptCount="10" debug="0" connectionTimeout="20000" useURIValidationHack="false"/>
  </Service>
</Server>
```

To access Confluence in this configuration, point your web browser to `http://localhost:8090/`.

NOTES

[1] For more information on netstat, see using netstat on Windows, or netstat man page (Linux).

[2] JIRA Standalone also runs on port 8080 by default. If you're looking to change the port of JIRA Standalone, see Changing JIRA Standalone's port.

RELATED PAGES

Installing Confluence Standalone Using the Automatic Installer
Running Tomcat on a Different Port
Documentation Home

Installing Confluence Standalone on Mac OS X from Zip File
These instructions apply to:

- The Standalone distribution of Confluence. The Standalone distribution includes Apache Tomcat as the standalone application server. If you want to install an EAR/WAR distribution for deployment on your own existing application server, please refer to the Confluence Installation Guide.
- Mac OS X systems. For other operating systems please refer to the Confluence Installation Guide.
- Installation via a zipped download file. For a simpler installation procedure for evaluation purposes, please consider the Confluence Installer.
- Preparation for a production instance of Confluence.

Also, please check the version of Confluence which you are installing. Refer to the documentation home page to verify the latest Confluence version and to find documentation for older versions.

On this page:
- 1. Before you Start
- 2. Check for the JDK (Java Development Kit)
- 3. Download and Unzip the Confluence Installation File
- 4. Define your Confluence Home Directory
- 5. Check the Ports
- 6. Select an External Database
- 7. Start Confluence
- 8. Next Step is the Confluence Setup Wizard

1. Before you Start

Please check the following points:

1. Ensure that your system meets the minimum requirements to run Confluence. For more information, please read the detailed system requirements.
2. Have your Confluence license key ready. You can obtain a trial, free or commercial license now, or retrieve your existing license key.
3. You must be able to use a command prompt and install Java to continue. If not, please contact your system administrator to assist you or consider the Confluence Hosted evaluation option.
4. We recommend that you run Software Update to ensure that your operating system is up to date.

2. Check for the JDK (Java Development Kit)

The jdk is installed on OS X by default. From Applications > Utilities, open Terminal. Run `java -version` to see if its installed.

3. Download and Unzip the Confluence Installation File

1. If you have not downloaded Confluence already, download the Standalone tar.gz file for Macs.
2. Create a folder in your user's home folder called 'confluence'. The Confluence application and data will live in two separate folder underneath this folder once you are done.
   - Ensure that there are no spaces in the folder name, or in the names of any of its parent folders.
3. Find the downloaded tar.gz file in the Finder. Drag it to the confluence directory in your home folder. Double-click on the file to extract it to a directory called `confluence-2.7.0-std` or something similar.
   - This folder that includes the Confluence application is called the Confluence Installation directory.
4. Set up an environment variable which tells Confluence where your Java Virtual Machine is installed.
   - Inside the Confluence Installation directory, find the `bin/setenv.sh` file.
   - Open the `setenv.sh` file with TextEdit.
   - Add the following line as the first line of the file:
     ```bash
     export JAVA_HOME=/Library/Java/Home
     ```
   - Save the file.
5. Create a new folder named `data` inside the 'confluence' folder in your user's home folder. This new folder is called the Confluence Home directory.
   - Do not put your Confluence Home directory inside the Confluence Installation folder ('confluence-2.7.0-std') or your installation will have problems with upgrades.

4. Define your Confluence Home Directory

Now you need to define the Confluence Home directory. This is where Confluence will store its configuration information, indexes and attachments.

Tip: Another term for 'Home directory' would be 'data directory'.

We suggest using different paths for your installation and home directories. This will facilitate upgrades.
Examples of Installation and Home Directories

Installation directory: /Users/example/confluence/confluence-2.7.0-std
Home directory: /Users/example/confluence/data

1. Open your Confluence Installation directory (created when you unzipped Confluence — see above).
2. Under the Installation directory, find this file: /confluence/WEB-INF/classes/confluence-init.properties
3. Open the confluence-init.properties file in a text editor such as Textedit.
4. Scroll to the bottom and find this line:
   
   # confluence.home=c:/confluence/data

5. Remove the '#' and the space at the beginning of this line, so that Confluence no longer regards the line as a comment. The line should now begin with confluence.home
6. Change the Confluence Home directory to the Confluence Home directory you have just created:
   - Place the cursor after the ' ' sign.
   - Find the the Confluence Home directory which you created earlier and drag it to TextEdit. This will insert the full path of the folder into the file.
   - Make sure that you did delete the leading '#' character, and that the path after the ' ' sign starts with a '/' character. The line should now look something like this:

   confluence.home=/Users/example/confluence/data

5. Check the Ports

If you have another application running on your machine which is using the same ports that Confluence uses by default, you may need to change the port which Confluence will use. For example, if you have a Standalone installation of JIRA running on this machine, JIRA might be already using the port which Confluence requests by default.

By default, Confluence listens on port '8080'. If this port is already in use in your installation, follow these instructions to change the ports:

- To change the ports for Confluence Standalone, open the file conf/server.xml under your Confluence Installation directory. The first four lines of the file look like this:

   Default conf/server.xml

   <Server port="8000" shutdown="SHUTDOWN" debug="0">
   <Service name="Tomcat-Standalone">
   <Connector className="org.apache.coyote.tomcat4.CoyoteConnector" port="8080"
   minProcessors="5" maxProcessors="75"
   enableLookups="true" redirectPort="8443" acceptCount="10" debug="0"
   connectionTimeout="20000" useURIValidationHack="false"/>
   ...

   You need to modify both the server port (default is 8000) and the connector port (default is 8080) to ports that are free on your machine.

   ✓ Hint: You can use netstat to identify free ports on your machine. See more information on using netstat on Windows or on Linux.

   For example, here are the first four lines of a modified server.xml file, using ports '8015' and '8090':

   Modified conf/server.xml using ports 8015 and 8090

   <Server port="8015" shutdown="SHUTDOWN" debug="0">
   <Service name="Tomcat-Standalone">
   <Connector className="org.apache.coyote.tomcat4.CoyoteConnector" port="8090"
   minProcessors="5" maxProcessors="75"
   enableLookups="true" redirectPort="8443" acceptCount="10" debug="0"
   connectionTimeout="20000" useURIValidationHack="false"/>
   ...

   To access Confluence in this configuration, point your web browser to http://localhost:8090/.
You will find more information on this page.

6. Select an External Database

This step is optional for evaluation instances of Confluence. It is mandatory for a production instance.

Select one of the supported external databases and follow the corresponding database setup guide. You can learn more about migration from an existing installation or use of the evaluation database here. You will continue to use the Database Setup Guide during the Confluence Setup Wizard. (See step 8 below.)

7. Start Confluence

1. Go to your Confluence Installation directory (created when you unzipped Confluence — see above).
2. Open the bin folder and run OS X - Run Confluence In Background.
3. Once Confluence is running, open a web browser and visit http://localhost:8080/.
   ![Hint: If you changed the port earlier, use the port you specified in step 5 above.]

8. Next Step is the Confluence Setup Wizard

The Confluence Setup Wizard should appear in your web browser, prompting you to enter your license key. Follow the instructions on the screens, and read more guidelines on the Confluence Setup Wizard.

If the web browser shows an error instead of the Setup Wizard, check the Installation FAQ.

RELATED TOPICS

Change listen port for Confluence Standalone
Adding SSL for Secure Logins and Page Security
Confluence Setup Guide
Configuration Guide
Documentation Home

Installing Confluence Standalone on Unix or Linux

These instructions apply to:

- The Standalone Distribution of Confluence. The Standalone distribution includes Apache Tomcat as the standalone application server. If you want to install an EAR/WAR distribution for deployment on your own existing application server, please refer to the Confluence Installation Guide.
- Unix, Linux or Solaris systems. If you are installing Confluence on a Windows or Mac OS X system, please refer to Installing Confluence Standalone Using the Automatic Installer.

Also, please check the version of Confluence which you are installing. Refer to the documentation home page to verify the latest Confluence version and to find documentation for older versions.

![Hint: If you are evaluating Confluence on Unix or you are unsure which version to install, this is the one for you. Just follow the instructions below.]

On this page:

- 1. Before you Start
- 2. Install the JDK (Java Development Kit)
- 3. Install X11 Dependencies
- 4. Download the Confluence Installation File
- 5. Define your Confluence Home Directory
- 6. Check the Ports
- 7. Select an External Database
- 8. Start Confluence
- 9. Next Step is the Confluence Setup Wizard

1. Before you Start

Please check the following points:

1. Ensure that your system meets the minimum requirements to run Confluence. For more information, please read the detailed system requirements.
2. Have your Confluence license key ready. You can obtain a trial, free or commercial license now, or retrieve your existing license key.
3. You must be able to use a command prompt and install Java to continue. If not, please contact your system administrator to assist you or consider the Confluence Hosted evaluation option.
4. Make sure that you use a Gnu version of zip application - Sun/Solaris and AIX are known to have problems with zip, because they use their own (old) versions instead of the Gnu version.
2. Install the JDK (Java Development Kit)

Confluence requires Java 5 (JDK 1.5) or later

Confluence needs JDK 1.5 or newer to be installed on your computer.

- A JRE (Java Runtime Environment) is not enough.
- JDK 6 is the preferred platform, because it is faster and more reliable.
- JDK 1.5 is fine.
- JDK 1.4 is not supported in Confluence 2.9 or later.

OpenJDK is currently not supported, jira issue exists already here

1. If you are not sure whether you have JDK installed correctly, please confirm by doing the following:
   - Open a command prompt.
   - On Windows: Open your 'Start' menu and select 'Run', then type `cmd` and click 'OK'.
   - Type the following in the command prompt and then press Enter:
     - On Windows: `echo %JAVA_HOME%`
     - On Unix: `echo $JAVA_HOME`
   - View the result:
     - If a line is displayed such as `C:\Program Files\Java\jdk1.5.0_06`, please check that the letters just before the final numbers are ' '. If you see those letters, the JDK is installed.
     - If nothing is displayed, or you do not see ' ' plus some numbers, the JDK is not installed.

2. If you have installed a non-Sun JDK and you want to use SSL then you need to install the Sun JSSE package.

3. If you need to install the JDK, follow these instructions:
   - Go to the Java Sun download page.
   - Download the version entitled 'JDK 6 Update XX', where 'XX' stands for some number. (Sun will provide the latest version on that page.)
   - When the download has finished, run the Java installer. At one point, you will be asked to choose a directory to install to.
   - Copy or write this directory down for use later.
   - On Windows: Please follow these instructions to set your JAVA_HOME environment variable to the directory you have just installed the JDK. By default, this directory is under `C:\Program Files\Java`.

3. Install X11 Dependencies

On Unix-based operating systems, the Java runtime makes use of certain parts of the platform's native X11 graphics libraries. The X Server does not have to be running, but the libraries must be available on the server. Confluence will run on a server that does not have Xlib installed, but parts of the application that manipulate graphics: PDF exports, image thumbnailing, the image gallery macro, CAPTCHA, and the resizing of profile pictures, will fail.

Mac OS X
You do not need to install X11 on Mac OS X, as it has its own graphics libraries.

If X11 is not present, you may see any of the following errors

- "This Confluence installation can not generate thumbnails: no image support in Java runtime"
- "Exception in thread "main" java.lang.UnsatisfiedLinkError: /usr/local/j2sdk1.4.2_09/jre/lib/i386/libawt.so: libXp.so.6: cannot open shared object file: No such file or directory" when exporting a PDF
- "NoClassDefFoundError" when uploading a profile picture

If This Doesn't Help
If you have X11 installed and thumbnailing still does not work, please ensure that you are running Java in headless mode — see the FAQ entitled Confluence doesn't generate thumbnails.

Specific Installation Instructions

Fedora Core

On Fedora Core, you will need to install the `xorg-x11-deprecated-libs` package. (https://bugzilla.redhat.com/bugzilla/show_bug.cgi?id=130239)

Fedora Core 6, RHEL 5
- libXp
- libXp-devel (if you wish to compile against this library)
Debian Linux

On Debian, you will need to install the following packages (CONF-6411):

```
apt-get install libx11-6 libx11-dev libxt6 libxt6-dbglibxext6libxtst-dev libxtst6 xlibs-dbglxlibs-dev
```

You'll only need the `xlibs-dbgl` package if you're running an older version of Debian (3.0). It's a dummy package for smoothing the transition to a new set of graphics libraries, so if you can't locate it, you most likely don't need it.

Gentoo Linux

```
emerge libICE libSM libX11 libXext libXp libXt libXtst
```

Solaris 10

Please refer to the following forum for more information.

Ubuntu

```
> sudo apt-get install libx11-6 libx11-dev libxt6 libxt6-dbglibxext6libxtst-dev libxtst6 xlibs-dbglxlibs-dev
```

Note: `sudo` enables you to be superuser for one operation. You will need to supply your user password.

4. Download the Confluence Installation File

1. If you have not downloaded Confluence already, download the Standalone TAR.
2. Solaris users, please check your unzip program: you must use GNU Tar, not Solaris Tar. Linux or Unix users can use any unzip program to unzip Confluence.
3. Use your unzip program to unzip the installation file to a directory such as `/home/jsmith/confluence-2.7.0-std/`
   * Do not use spaces in your directory path.

The directory into which you unzipped the Confluence installation is called the Confluence Installation directory. Next you will define the Confluence Home directory.

5. Define your Confluence Home Directory

Now you need to define the Confluence Home directory. This is where Confluence will store its configuration information, indexes and attachments.

Tip: Another term for 'Home directory' would be 'data directory'.

We suggest using different paths for your installation and home directories. This will facilitate upgrades. Examples of Installation and Home Directories:

- Installation directory: `/usr/local/confluence-2.7.0-std/`
- Home directory: `/usr/local/confluence-data/`

1. Open your Confluence Installation directory (created when you unzipped Confluence — see above).
2. Under the Installation directory, find this file: `confluence/WEB-INF/classes/confluence-init.properties`
3. Open the `confluence-init.properties` file in a text editor.
4. Scroll to the bottom and find this line:

```
# confluence.home=c:/confluence/data
```

5. Remove the `#` and the space at the beginning of this line, so that Confluence no longer regards the line as a comment. The line should now begin with `confluence.home`
6. If you decide to change the Confluence Home directory from the default, use an absolute path rather than a symbolic link to specify the path and file name. For example:

```
confluence.home=/home/jsmith/confluence-data/
```

6. Check the Ports
If you have another application running on your machine which is using the same ports that Confluence uses by default, you may need to change the port which Confluence will use. For example, if you have a Standalone installation of JIRA running on this machine, JIRA might be already using the port which Confluence requests by default.

By default, Confluence listens on port '8080'. If this port is already in use in your installation, follow these instructions to change the ports:

- To change the ports for Confluence Standalone, open the file `conf/server.xml` under your Confluence Installation directory. The first four lines of the file look like this:

```xml
<Server port="8000" shutdown="SHUTDOWN" debug="0">
  <Service name="Tomcat-Standalone">
    <Connector className="org.apache.coyote.tomcat4.CoyoteConnector" port="8080" minProcessors="5" maxProcessors="75" enableLookups="true" redirectPort="8443" acceptCount="10" debug="0" connectionTimeout="20000" useURIValidationHack="false"/>
    ...
  </Service>
</Server>
```

You need to modify both the `server` port (default is 8000) and the `connector` port (default is 8080) to ports that are free on your machine.

Hint: You can use `netstat` to identify free ports on your machine. See more information on using `netstat` on Windows or on Linux.

For example, here are the first four lines of a modified `server.xml` file, using ports '8015' and '8090':

```xml
<Server port="8015" shutdown="SHUTDOWN" debug="0">
  <Service name="Tomcat-Standalone">
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    ...
  </Service>
</Server>
```

To access Confluence in this configuration, point your web browser to `http://localhost:8090/`.

You will find more information on this page.

7. Select an External Database

This step is optional for evaluation instances of Confluence. It is mandatory for a production instance.

Select one of the supported external databases and follow the corresponding database setup guide. You can learn more about migration from an existing installation or use of the evaluation database here. You will continue to use the Database Setup Guide during the Confluence Setup Wizard. (See step 9 below.)

8. Start Confluence

1. Go to your Confluence Installation directory (created when you unzipped Confluence — see above).
2. Under your Confluence Installation directory, open the `bin` directory and run the startup script: `startup.sh`.
3. Once Confluence is running, open a web browser and visit `http://localhost:8080/`.
   `- Hint: If you changed the port earlier, use the port you specified in step 6 above.

9. Next Step is the Confluence Setup Wizard

The Confluence Setup Wizard should appear in your web browser, prompting you to enter your license key. Follow the instructions on the screens, and read more guidelines on the Confluence Setup Wizard.

If the web browser shows an error instead of the Setup Wizard, check the Installation FAQ.

RELATED TOPICS

- Change listen port for Confluence Standalone
- Adding SSL for Secure Logins and Page Security
- Confluence Setup Guide
- Configuration Guide
- Documentation Home

Installing Confluence Standalone on Windows from Zip File
These instructions apply to:

- The **Standalone distribution** of Confluence. The Standalone distribution includes Apache Tomcat as the standalone application server. If you want to install an EAR/WAR distribution for deployment on your own existing application server, please refer to the [Confluence Installation Guide](#).
- **Windows** systems. For other operating systems please refer to the [Confluence Installation Guide](#).
- Installation via a **zipped download file**. For a simpler installation procedure for evaluation, please consider the Confluence Installer.

Also, please check the version of Confluence which you are installing. Refer to the [documentation home page](#) to verify the latest Confluence version and to find documentation for older versions.

On this page:

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2. Install the JDK (Java Development Kit)
3. Download the Confluence Installation File
4. Define your Confluence Home Directory
5. Check the Ports
6. Select an External Database
7. Start Confluence
8. Next Step is the Confluence Setup Wizard
9. Start Confluence automatically on Windows as a Service

1. **Before you Start**

   Please check the following points:

   1. Ensure that your system meets the minimum requirements to run Confluence. For more information, please read the detailed [system requirements](#).
   2. Have your Confluence license key ready. You can obtain a trial, free or commercial license now, or retrieve your existing license key.
   3. You must be able to use a command prompt and install Java to continue. If not, please contact your system administrator to assist you or consider the Confluence Hosted evaluation option.

2. **Install the JDK (Java Development Kit)**

   **Confluence requires Java 5 (JDK 1.5) or later**

   Confluence needs JDK 1.5 or newer to be installed on your computer.

   - A JRE (Java Runtime Environment) is not enough.
   - JDK 6 is the preferred platform, because it is faster and more reliable.
   - JDK 1.5 is fine.
   - JDK 1.4 is not supported in Confluence 2.9 or later.

   **OpenJDK is currently not supported, jira issue exists already here**

   1. If you are not sure whether you have JDK installed correctly, please confirm by doing the following:
      - Open a command prompt.
      - On Windows: Open your ‘Start’ menu and select ‘Run’, then type `cmd` and click ‘OK’.
      - Type the following in the command prompt and then press Enter:
        - On Windows: `echo %JAVA_HOME%`
        - On Unix: `echo $JAVA_HOME`
      - View the result:
        - If a line is displayed such as `C:\Program Files\Java\jdk1.5.0_06`, please check that the letters just before the final numbers are ‘jdk’. If you see those letters, the JDK is installed.
        - If nothing is displayed, or you do not see ‘jdk’ plus some numbers, the JDK is not installed.
   2. If you have installed a non-Sun JDK and you want to use SSL then you need to install the Sun JSSE package.
   3. If you need to install the JDK, follow these instructions:
      - Go to the Java Sun download page.
      - Download the version entitled ‘JDK 6 Update XX’, where ‘XX’ stands for some number. (Sun will provide the latest version on that page.)
      - When the download has finished, run the Java installer. At one point, you will be asked to choose a directory to install to.
      - Copy or write this directory down for use later.
   4. On Windows: Please follow these instructions to set your `JAVA_HOME` environment variable to the directory you where you have just installed the JDK. By default, this directory is under `C:\Program Files\Java`. 

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3. Download the Confluence Installation File

1. If you have not downloaded Confluence already, download the Standalone zip file.
2. Please check your unzip program before extracting the downloaded zip file. Some archive-extract programs cause errors when unzipping the Confluence zip file. You should use a third-party unzip program like 7Zip or Winzip. If you do not have one, please download and install one before continuing:
   * 7Zip — Recommended. If in doubt, download the '32-bit.exe' version
   * Winzip
3. Use your unzip program to unzip the installation file to a directory such as c:\confluence.
   * Do not use spaces in your directory path.

⚠️ The directory into which you unzipped the Confluence installation is called the Confluence Installation directory. Next you will define the Confluence Home directory.

4. Define your Confluence Home Directory

Now you need to define the Confluence Home directory. This is where Confluence will store its configuration information, indexes and attachments.

Tip: Another term for 'Home directory' would be 'data directory'.

We suggest using different paths for your installation and home directories. This will facilitate upgrades.

Examples of Installation and Home Directories

<table>
<thead>
<tr>
<th>Installation directory</th>
<th>Home directory</th>
</tr>
</thead>
<tbody>
<tr>
<td>c:\confluence\confluence-2.7.0-std</td>
<td>c:\confluence\data</td>
</tr>
</tbody>
</table>

1. Open your Confluence Installation directory (created when you unzipped Confluence — see above).
2. Under the Installation directory, find this file: `\confluence\WEB-INF\classes\confluence-init.properties`
3. Open the `confluence-init.properties` file in a text editor such as Notepad.
4. Scroll to the bottom and find this line:

   ```
   # confluence.home=c:/confluence/data
   ```

5. Remove the '#' and the space at the beginning of this line, so that Confluence no longer regards the line as a comment. The line should now begin with

   ```
   confluence.home=c:/data/confluence-home
   ```

6. If you decide to change the Confluence Home directory from the default, please note the following:
   * Avoid spaces in the directory path or file name.
   * Use forward slashes '/' to define the path.
   For example:

   ```
   confluence.home=c:/data/confluence-home
   ```

5. Check the Ports

If you have another application running on your machine which is using the same ports that Confluence uses by default, you may need to change the port which Confluence will use. For example, if you have a Standalone installation of JIRA running on this machine, JIRA might be already using the port which Confluence requests by default.

By default, Confluence listens on port '8080'. If this port is already in use in your installation, follow these instructions to change the ports:

* To change the ports for Confluence Standalone, open the file `conf/server.xml` under your Confluence Installation directory. The first four lines of the file look like this:

   ```
   <Server port="8000" shutdown="SHUTDOWN" debug="0">
   <Service name="Tomcat-Standalone">
   ```

   Default `conf/server.xml`

   ```
   <Server port="8000" shutdown="SHUTDOWN" debug="0">
   <Service name="Tomcat-Standalone">
   <Connector className="org.apache.coyote.tomcat4.CoyoteConnector" port="8080" minProcessors="5" maxProcessors="75" enableLookups="true" redirectPort="8443" acceptCount="10" debug="0" connectionTimeout="20000" useURIValidationHack="false"/>
   ```
You need to modify both the server port (default is 8000) and the connector port (default is 8080) to ports that are free on your machine.

**Hint:** You can use netstat to identify free ports on your machine. See more information on using netstat on Windows or on Linux.

For example, here are the first four lines of a modified server.xml file, using ports '8015' and '8090':

```xml
<Server port="8015" shutdown="SHUTDOWN" debug="0">
<Service name="Tomcat-Standalone">
  <Connector className="org.apache.coyote.tomcat4.CoyoteConnector" port="8090">
    ... 
  </Connector>
</Service>
</Server>
```

To access Confluence in this configuration, point your web browser to http://localhost:8090/.

You will find more information on [this page](#).

6. **Select an External Database**

Atlassian recommends Postgres. See [Database Setup for PostgreSQL on Windows](#) for a step-by-step Windows installation with screenshots.

This step is optional for evaluation instances of Confluence. It is mandatory for a production instance.

Select one of the supported external databases and follow the corresponding database setup guide. You can learn more about migration from an existing installation or use of the evaluation database here. You will continue to use the Database Setup Guide during the Confluence Setup Wizard. (See step 8 below.)

7. **Start Confluence**

1. Go to your Confluence Installation directory (created when you unzipped Confluence — see above).
2. Under your Confluence Installation directory, open the `bin` directory and run the startup script: `startup.bat`. A command prompt window should appear.

   Please do not close this command prompt window. If you do so, Confluence will stop running.

   **Troubleshooting**

   If the window closes immediately when started, this means that an error is preventing Confluence from starting. To view this error:
   a. Open a command prompt: Click on your 'Start' menu, then click 'Run'. In the Run box, type `cmd` and click 'OK'.
   b. From the command prompt, go to your Confluence Installation directory.
   c. Go into the `bin` subdirectory.
   d. Run `catalina.bat run`.
   
   ![You should not run startup.bat at this point, because that would still produce a popup window that would close straight away.]
   e. Read the error message.
   f. Find the solution to that error in the [Installation FAQ](#).

3. Once Confluence is running, open a web browser and visit http://localhost:8080/.

   - If you changed the port earlier, use the port you specified in step 5 above.
   - If your web browser window shows an error, try waiting for 30 seconds or so and then refresh the browser page.

8. **Next Step is the Confluence Setup Wizard**

   The Confluence Setup Wizard should appear in your web browser, prompting you to enter your license key. Follow the instructions on the screens, and read more guidelines on the Confluence Setup Wizard.

   If the web browser shows an error instead of the Setup Wizard, check the [Installation FAQ](#).

9. **Start Confluence automatically on Windows as a Service**

   Confluence should be run as a service.
Installing Confluence Standalone Using the Automatic Installer

These instructions apply to:

- The Standalone distribution of Confluence. The Standalone distribution includes Apache Tomcat as the standalone application server.
- If you want to install an EAR/WAR distribution for deployment on your own existing application server, please refer to the Installing the Confluence EAR-WAR Edition.
- The simplified Windows Automatic Installer for Confluence.
  - If you want to install Confluence Standalone on a Windows-based system using the zip file for evaluation or production purposes, please refer to Installing Confluence Standalone on Windows from Zip File.
  - If you want to install Confluence Standalone on a Unix-based system, please refer to Installing Confluence Standalone on Unix or Linux.
  - If you want to install Confluence Standalone on a Mac OS X-based system:
    * Using the tar.gz (zip) file for evaluation or production purposes, please refer to Installing Confluence Standalone on Mac OS X from Zip File.

Also, please check the version of Confluence which you are installing. Refer to the documentation home page to verify the latest Confluence version and to find documentation for older versions.

On this page:

- 1. Before you Start
- 2. Download and Run the Confluence Installer
- 3. Define your Installation Directory
- 4. Define your Home Directory
- 5. Choose your Ports if Necessary
- 6. Decide whether to run Confluence as a Windows Service
- 7. Wait while the Installer Extracts and Saves Files
- 8. Decide if you Want to Start Confluence Now
- 9. Exit the Installer
- 10. Next Step is the Confluence Setup Wizard

1. Before you Start

The Windows automatic installer version has only been tested for evaluation purposes. If you wish to install a production instance of Confluence, please use the .zip for Windows or the .tar.gz for Unix or Linux or Mac OS X versions instead.

For more information on known issues associated with the auto-installer, please refer to CONF-11460.

Before you start the installation:

1. If you are upgrading from an existing Confluence installation, be sure to back up your Confluence Installation Directory and your Confluence Home Directory, as directed in the Upgrade Guide. If you are using an external database, perform a database backup.
2. Ensure that your system meets the minimum requirements to run Confluence. For more information, please read the detailed system requirements.
3. Have your Confluence license key ready. You can obtain a trial, free or commercial license now, or retrieve your existing license key.

2. Download and Run the Confluence Installer

1. Download Confluence, if you have not already done so. Ensure Windows is selected and choose the 'Standalone Evaluation' installation file:
   - Click 'Show All' to see all download files.
   - Select file 'Standalone Evaluation (Windows Installer)'
2. Save the downloaded file onto your computer.
3. When the download is finished, start the Confluence Installer by running the file you have just downloaded:
   - Click the downloaded file from your browser’s ‘Downloads’ window.
   - Alternatively, you can open the file directly from the location you saved it in — typically your desktop.

The installation wizard will perform some preparation, then the Confluence Installer will display a welcome screen, something like this:

Screenshot: The Confluence Installer’s Welcome Screen
3. Define your Installation Directory

The 'Confluence Installation directory' is the directory into which the Confluence application files and libraries have been unpacked.
Confluence 3.0 Documentation

(unzipped) when Confluence was installed. Confluence does not modify or store any data in this directory. This directory is also sometimes called the 'Confluence Install directory'.

⚠️ If you are upgrading from an existing Confluence installation, choose a different Installation Directory i.e. do not overwrite your existing installation.

1. Choose where you would like Confluence to be installed. If the directory you choose does not yet exist, the installer will create it for you. Do one of the following:
   - Leave the default value supplied for the 'Destination directory'.
   - Or click the 'Browse' button and choose another location on your computer.
2. Click 'Next'.

4. Define your Home Directory

Screenshot: Defining the Confluence Home Directory

The Confluence Home directory is the folder where Confluence stores its configuration information, search indexes and page attachments. If you're using the embedded HSQLDB database supplied for evaluation purposes, Confluence will also store its database in this directory.

Tip: Another term for 'Home directory' would be 'data directory'.

⚠️ If you are upgrading from an existing Confluence installation, choose the same directory as your existing Confluence installation.

1. Choose where you would like Confluence to store its configuration data. If the directory you choose does not yet exist, the installer will create it for you. Do one of the following:
   - Leave the default value supplied for the location of the Home directory.
   - Or click the 'Browse' button and choose another location on your computer.
2. Click 'Next'.

5. Choose your Ports if Necessary

Screenshot: Choosing the Ports
If you have another application running on your machine which is using the same ports that Confluence uses by default, you may need to change the port which Confluence will use. For example, if you have a Standalone installation of JIRA running on this machine, JIRA might be already using the port which Confluence requests by default. The Confluence installer will prompt you for alternative ports if necessary, by showing the above screen.

1. Enter an alternative 'HTTP Port Number', such as '8090'. This port forms part of the URL you will use to access Confluence in a web browser. By default, Confluence listens on port 8080. In that case, you might use the following address to access Confluence: http://localhost:8080/.
2. Enter an alternative 'Control Port Number', such as '8015'. This port is used to start up and shut down Confluence, via the RMI (Remote Method Invocation). By default, Confluence uses port 8005.
3. Click 'Next'.

6. Decide whether to run Confluence as a Windows Service

Screenshot: Choosing to Install Confluence as a Windows Service
If you are using Microsoft Windows, you may choose to install Confluence as a Windows Service. This means that Confluence will start up automatically each time you start Windows. By default, the Windows service will run under the Local System account.

You can read more information, for non-Windows users too, on [starting Confluence automatically on system startup](#).

1. Put a tick in the checkbox next to 'Run as service' if you would like Confluence to start up automatically each time you start your computer.
2. Click 'Next'.

**7. Wait while the Installer Extracts and Saves Files**

Screenshot: Installation in Progress

The Confluence installer now has enough information. It will start extracting the files from the file you have downloaded, and copying them onto your computer.

This may take a few minutes. When it has finished, you will see the 'Start Confluence in browser' screen as shown below.

**8. Decide if you Want to Start Confluence Now**

Screenshot: Start Confluence Now?
Place a tick next to 'Start Confluence in browser' if you want to start up Confluence in your web browser now.

9. Exit the Installer

Screenshot: Installation Complete

Congratulations — you have installed Confluence!

Click the ‘Finish’ button to close the installer.

For Windows users: The installer has added an entry into your Windows Start Menu, called 'Atlassian Confluence'. You will also find an
uninstaller and some functions for managing Confluence as a Windows service.

10. Next Step is the Confluence Setup Wizard

If you chose to start Confluence in step 8 above, the Confluence Setup Wizard should appear in your web browser, prompting you to enter your license key. Follow the instructions on the screens, and read more guidelines on the Confluence Setup Wizard.

If an error occurs, check the Installation FAQ page.

RELATED TOPICS

- Installation FAQ
- Change listen port for Confluence Standalone
- Start Confluence automatically on system startup
- Adding SSL for Secure Logins and Page Security
- Confluence Setup Guide
- Configuration Guide

Installing Confluence Standalone Using the Mac OS X Evaluation Installer

This page contains instructions for using the Mac OS X Evaluation Installer for Confluence Standalone.

Important Notice:

- These instructions apply to the Standalone distribution of Confluence with the Mac OS X evaluation installer – this package is NOT RECOMMENDED for production use. It is strictly for temporary, evaluation purposes only.
- For information about installing other Confluence versions, such as those for production use or other operating systems, see the instructions for other packages below.

On this page:

- 1. Before you Begin
- 2. Download and Run the Confluence Mac OS X Evaluation Installer
- 3. Wait while the Confluence Evaluation Application Sets Up Confluence
- 4. Run and Configure Confluence
- 5. Follow the Confluence Setup Wizard
- 6. Instructions for Other Packages
- 7. Support

1. Before you Begin

Please read the following before you begin:

- Ensure that your system meets the minimum requirements to run Confluence. For more information, please read the detailed system requirements for Mac OS X.
- Have your Confluence license key ready. You can obtain a trial, free or commercial license now, or retrieve your existing license key.
- Please check the version of Confluence which you are installing. Refer to the documentation home page to verify the latest Confluence version and to find documentation for older versions.
- Note that the Mac OS X Evaluation Installer version has only been tested for evaluation purposes. If you wish to set up a production (permanent) instance of Confluence, please use one of the other Confluence packages.

With those conditions satisfied, please continue on to Step 2.

2. Download and Run the Confluence Mac OS X Evaluation Installer

Follow these steps to download and run the Mac OS X evaluation installer and application for Confluence:

1. Download the Mac OS X evaluation installer if you have not already done so. From the Download page, click ‘Show All’, then the ‘Mac OS X’ tab. Select the file labelled ‘Confluence x.x.x - Standalone Evaluation (Mac OS X Installer)’ with the following filename:

```plaintext
atlassian-confluence-x.x.x-evaluation.dmg
```

In the filename, x.x.x represents the version of Confluence that will be installed.

2. Save the downloaded file onto your computer.

3. When the download has finished, start the Confluence Mac OS X Evaluation Installer by opening the file you have just downloaded. This ‘mounts’ the .dmg file in Mac OS X Finder and creates a Confluence Evaluation ‘application’ with the name Confluence.
x.x.x Evaluation, where x.x.x represents the version of Confluence that will be run.

- We recommend that you drag the Confluence x.x.x Evaluation file into the Applications folder, so that you'll be able to easily launch it next time you start the computer.

4. Start Confluence by opening the newly created Confluence x.x.x Evaluation application.

### 3. Wait while the Confluence Evaluation Application Sets Up Confluence

Upon starting the Confluence Evaluation application, the 'Confluence Evaluation' dialog box opens and indicates 'Starting'. During this time, the application installs and sets up Confluence for its first run.

**Screenshot: Confluence Evaluation Application – Initial Setup**

You will have a short wait while the Confluence Evaluation application installs its files (a process that should take no more than a few minutes to complete).

You can view the Confluence log at any time by clicking the 'View Log' button. This opens the contents of the Confluence log in a separate window.

**Screenshot: Confluence Evaluation Application – Confluence Log Window**

Viewing the Confluence Evaluation application's log during the installation phase shows the progress of the installation process. It also shows the usual activities logged while Confluence is being used.

### 4. Run and Configure Confluence

Once the installation is complete, the 'Confluence Evaluation' dialog box indicates 'Now Running'.

**Screenshot: Confluence Evaluation Application – Ready to Run Confluence**
The dialog box indicates the web address of your Confluence Evaluation installation. Clicking on this link or on the ‘Open Browser’ button opens Confluence (at this address) directly in your web browser. If your web browser is already open, Confluence will be opened in a new tab.

By default, the Confluence Evaluation application sets itself up to launch from your local computer’s network address. You can share the URL shown in the window with people on your local network to allow them to access your instance of Confluence.

⚠️ You must leave the Confluence Evaluation application’s dialog box open to keep Confluence running. You should only close this dialog box or click the ‘Exit’ button when you have completely finished using Confluence.

Confluence installation is now complete! You can now move on to configuration, covered below in Step 3.

✅ If you restart your computer (or close the ‘Confluence Evaluation’ dialog box) and later want to run Confluence again, simply open the Confluence x.x.x Evaluation file from the Applications folder (step 2.4 above) and wait until the ‘Confluence Evaluation’ dialog box indicates ‘Now Running’. The wait will be shorter than the first time as the Confluence Evaluation application’s files will have already been installed and it is only the start-up phase that needs to execute.

5. Follow the Confluence Setup Wizard

Now that you have started Confluence, the Confluence Setup Wizard should appear in your web browser, prompting you to enter your Confluence Setup Wizard license key. Follow the instructions on the screens that follow, reading the instructions for the Confluence Setup Wizard.

If you encounter any errors, check the Installation FAQ page.

Instructions for Other Packages

- If you want to install an EAR/WAR distribution for deployment on your own existing application server, please refer to the Installation the Confluence EAR-WAR Edition.
- If you want to install Confluence Standalone on a Mac OS X-based system using the tar.gz (zip) file for evaluation or production purposes, please refer to Installing Confluence Standalone on Mac OS X from Zip File.
- If you wanted to install Confluence Standalone on a Unix-based system, please refer to Installing Confluence Standalone on Unix or Linux.
- If you wanted to install Confluence Standalone on a Windows-based system:
  - Using the simplified automatic installer for evaluation purposes, please refer to Installing Confluence Standalone Using the Automatic Installer.
  - Using the zip file for evaluation or production purposes, please refer to Installing Confluence Standalone on Windows from Zip File.

Support

If you have trouble using the Mac OS X Evaluation Installer, please raise an issue in our online support system under the Confluence project.

Installing Java for Confluence

This page is part of the Confluence Installation Guide.

✅ Mac users can ignore these instructions, because OS X comes with a Java Development Kit.
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Confluence requires Java 5 (JDK 1.5) or later

Confluence needs JDK 1.5 or newer to be installed on your computer.

- A JRE (Java Runtime Environment) is not enough.
- JDK 6 is the preferred platform, because it is faster and more reliable.
- JDK 1.5 is fine.
- JDK 1.4 is not supported in Confluence 2.9 or later.

OpenJDK is currently not supported, jira issue exists already here

1. If you are not sure whether you have JDK installed correctly, please confirm by doing the following:
   - Open a command prompt.
   - On Windows: Open your ‘Start’ menu and select ‘Run’, then type cmd and click ‘OK’.
   - Type the following in the command prompt and then press Enter:
     - On Windows: echo %JAVA_HOME%
     - On Unix: echo $JAVA_HOME
   - View the result:
     - If a line is displayed such as C:\Program Files\Java\jdk1.5.0_06, please check that the letters just before the final numbers are ‘ ’. If you see those letters, the JDK is installed.
     - If nothing is displayed, or you do not see ‘jdk’ plus some numbers, the JDK is not installed.

2. If you have installed a non-Sun JDK and you want to use SSL then you need to install the OpenJDK package.
3. If you need to install the JDK, follow these instructions:
   - Go to the Java Sun download page.
   - Download the version entitled ‘JDK 6 Update XX’, where ‘XX’ stands for some number. (Sun will provide the latest version on that page.)
   - When the download has finished, run the Java installer. At one point, you will be asked to choose a directory to install to. Copy or write this directory down for use later.

4. On Windows: Please follow these instructions to set your JAVA_HOME environment variable to the directory you have just installed the JDK. By default, this directory is under C:\Program Files\Java.

Installing the Confluence EAR-WAR Edition

The Confluence EAR-WAR distribution is intended for deployment into an existing J2EE application server.

To use this method of installation, you or your application server administrator must already know how to deploy a web application on the application server of choice. If not, please use the Confluence Standalone distribution instead.

On this page:

- System Requirements for Confluence EAR-WAR Distribution
- Follow the Application-Specific Instructions

System Requirements for Confluence EAR-WAR Distribution

1. Please check the Confluence system requirements.
2. In addition to the above requirements, the EAR-WAR distribution requires an application server. Here are our guidelines on compatible and supported servers:

Supported and Compatible J2EE Application Servers

Confluence supports the following application servers, provided they are running on a Windows, Unix (NetBSD, FreeBSD, OpenBSD, Solarix, Linux), Mac OS X on x86 or x86-64 processors.

<table>
<thead>
<tr>
<th>Application Server</th>
<th>Supported in Confluence 3.0 (JUN/2009)</th>
<th>Works with Confluence 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache Tomcat</td>
<td>5.5.20+, 6.0</td>
<td>5.5</td>
</tr>
<tr>
<td>BEA Weblogic</td>
<td>9.2</td>
<td>9.1, 10</td>
</tr>
<tr>
<td>IBM Websphere Application Server</td>
<td>6.1</td>
<td></td>
</tr>
<tr>
<td>Cauchio Resin</td>
<td>3.0, 3.1.6, 3.1.7</td>
<td></td>
</tr>
</tbody>
</table>
JBoss 4.2

🌟 Column labelled 'Works with' as opposed to 'Supported in': We assume that Confluence works fine with these application server versions. Please be aware, however, that we do not test these versions regularly. Hence, we may request that you migrate to a supported version first before we can provide more detailed support.

Please see configuration guides for supported application servers.

If you have no preference, we recommend using Confluence Standalone which includes Apache Tomcat.

Unsupported J2EE Application Servers

From Confluence 2.10 and later, the following application servers are no longer supported:

- Tomcat 5.0 — please migrate to Tomcat 5.5 or 6
- Resin 2 — please migrate to Resin 3.0 or 3.1
- JBoss 4.x.x — please migrate to JBoss 4.x.

Currently, we do not officially support JBoss 5.x. However, a request has been created (CONF-16432) for official support of this application server.

The decision to deprecate these platforms was announced previously.

Potentially Compatible Application Servers

The following application servers may work with Confluence. Whilst they are not known to possess any problems or incompatibilities with Confluence, they have not been sufficiently tested to be considered a compatible Application Server. Consequently, they are not supported.

J2EE Application Servers:

- Macromedia JRun

Non J2EE Application Servers:

- Microsoft IIS Server

Refer to the Supported Platforms FAQ.

Known Incompatible J2EE Application Servers

The following application servers may (in part) work with Confluence. However, they are known to possess problems or incompatibilities with Confluence and consequently are not supported.

- Oracle OC4J / Oracle Application Server — see reported issue
- Sun Application Server — see reported issue
- GlassFish — see reported issue
- SAP-J2EE — see reported issue

RELATED TOPICS:

- Server Hardware Requirements Guide
- List Of Supported Databases
- List Of Supported Operating Systems
- System Requirements
- Supported Platforms FAQ

3. If deploying as an unexploded WAR, Ant 1.3 or later is required. This is bundled with the war download.
4. Confluence, the database and application server must use the same character encoding. UTF-8 is recommended.
5. If you are installing Confluence EAR-WAR on Unix, Linux or Solaris, please ensure that the required X11 libraries are installed.

⚠️ Support

If you deploy Confluence on an unsupported server, server-related issues cannot be covered by Atlassian technical support. You can try the user forums for assistance instead.

Follow the Application-Specific Instructions

- Installing Confluence EAR-WAR on Tomcat
- Installing Confluence EAR-WAR on Weblogic
- Installing Confluence EAR-WAR on Websphere
- Installing Confluence EAR-WAR on Resin
Installing Confluence EAR-WAR on Tomcat

On this page

- Step 1. Check the Known Issues for Tomcat
- Step 2. Download and Extract EAR-WAR Installation File
- Step 3. Check for Patches
- Step 4. Check for Application Server Issues
- Step 5. Review Application Server Memory Allocation
- Step 6. Configure confluence-init.properties
- Step 7. Edit Tomcat Context Descriptors
- Step 8. Add UTF-8 Encoding
- Step 9. Optional: Run Tomcat on a Different Port
- Step 10. Optional: Running Confluence as a Windows Service
- Proceed Through the Confluence Setup Wizard
  - TROUBLESHOOTING
  - RELATED TOPICS

Step 1. Check the Known Issues for Tomcat

Read through the Known Issues for Apache Tomcat.

Step 2. Download and Extract EAR-WAR Installation File

This section gives detailed instructions for installing Confluence EAR-WAR edition on an Apache Tomcat 5.5, or 6 server.

1. Download the Confluence EAR/WAR zip file. (You need to click the 'Show all' link to see the EAR/WAR zip file.)
2. Please check your unzip program before extracting the downloaded zip file. Some archive-extract programs cause errors when unzipping the Confluence zip file:
   - Windows users must avoid the Windows built-in unzip utility, as it doesn't extract all the files. Use a third-party unzip program like 7Zip or Winzip.
   - Solaris users will need to use GNU tar to handle the long file names.
3. Extract the downloaded zip file.
   - Tomcat users, take care not to unzip the Confluence installation into your Tomcat webapps folder, as this may cause Confluence to be deployed more than once.
4. You have now unzipped your Confluence installation directory, which should contain the version number e.g. confluence-2.10.0 or confluence-2.10.2. This directory will be later referred to as the Confluence installation directory. Inside is a confluence subdirectory, referred to later as the (Exploded) Confluence WAR directory. Record the absolute path to the Confluence WAR directory.

Step 3. Check for Patches

Review the Release Notes for your Confluence version and apply any patches listed.

Step 4. Check for Application Server Issues

Note that these are optionals and you do not need to go through them to make Confluence EAR/WAR run for the first time. They are listed here only to assist you in getting the best matching configuration for your production requirement.

Step 5. Review Application Server Memory Allocation

Confluence requires a maximum heap allocation (Xmx) of at least 256 MB for normal operation. See Increasing Application Server Memory.

Do not configure a heap allocation so large that it does not allow enough remaining physical memory for your operating system and other applications on the server. The heap allocation should be large enough for Confluence, but not so large that the memory would be paged to disk during normal operation.

Step 6. Configure confluence-init.properties

1. Inside the Confluence installation directory, edit ...confluence/WEB-INF/classes/confluence-init.properties in a text editor.
2. Now define your Confluence Home directory, by setting the confluence.home property to a directory of your choosing. We suggest using different paths for your installation and home directories. This will facilitate upgrades. This is the directory that will contain all of Confluence's configuration, backup and attachment files.
   - Tip: Another term for 'Home directory' would be 'data directory'.

Step 7. Edit Tomcat Context Descriptors

1. Create a file called confluence.xml in your Tomcat installation's conf/Catalina/localhost directory. (If you have set up a different hostname for your tomcat instance, please specify that instead of localhost.) For Tomcat 6, you must create the Catalina and localhost directories.
2. Open your new confluence.xml and add these lines:
To run Confluence without a context path of "/confluence", change the path in the Context tag to an empty string ('"'). If this is without Tomcat, name the file ROOT.xml rather than confluence.xml. If you wish to change the context path to a different name, change both the context path and the name of the xml file.

3. For docBase, specify the value you noted down earlier.
4. Restart Tomcat, and Confluence should be accessible under /confluence/ on your Tomcat server.
5. Follow the link below to proceed with the setup wizard.

Step 8. Add UTF-8 Encoding

1. Edit conf/server.xml and find the line where the Coyote HTTP Connector is defined. It will look something like this, possibly with more parameters:

   `<Connector port="8080"/>
   `<Connector port="8080" URIEncoding="UTF-8"/>

2. Add a URIEncoding="UTF-8" property to the connector:

Step 9. Optional: Run Tomcat on a Different Port

See Running Tomcat on a Different Port.

Step 10. Optional: Running Confluence as a Windows Service

Confluence can be run as a service.

Proceed Through the Confluence Setup Wizard

When you visit the Confluence application in your browser, the Confluence Setup Wizard should appear. The first screen is a prompt for you to enter your license key. Follow the instructions on the screens, and read more guidelines on the Confluence Setup Wizard.

TROUBLESHOOTING

Installation FAQ

RELATED TOPICS

Confluence Setup Guide
Start Confluence automatically on Windows as a Service
Configuration Guide
Confluence Home Directory
Confluence Cluster Installation
Fedora or RHEL/Centos Install Guide — Contributed by a Confluence user
Known Issues with Enterprise or Webhosting environments
Pull down RSS Feeds or use the Repository plugin through a web proxy
Setting the JAVA_HOME Variable in Windows
Setup a mail session in standalone version
Confluence Documentation Home
Confluence FAQ
Installing Confluence EAR-WAR on Weblogic
Configuring a MySQL Datasource in Apache Tomcat

Known Issues for Apache Tomcat

On this page:
- Supported Application Servers
- Tomcat Documentation
- Known Issues
  - RELATED TOPICS

Supported Application Servers

Visit the List Of Supported Application Servers.
**Tomcat Documentation**

An excellent resource for Tomcat configuration is the Apache documentation.

**Known Issues**

- Confluence Can't Start and Doesn't Create Logfiles due to CATALINA_HOME Being Set
- Setup Fails Creating MySQL Schema due to Tomcat Incompatibility
- Confluence Startup Referencing a Different Tomcat
- Unable to start Tomcat after Confluence user management delegation to JIRA
- Fix 'Not supported by BasicDataSource' Setup or Startup Error
- NotSerializableException on shutdown
- Slow Page Rendering of Large Pages due to HTTP POST Limitations

**RELATED TOPICS**

- Running Confluence behind Apache
- Configuring a MySQL Datasource in Apache Tomcat

**Installing Confluence EAR-WAR on Weblogic**

This documentation provides a guide to install Confluence on Weblogic 9.2 with basic settings and an external database. Examples on the page are given for Windows. Instructions for Linux should be similar to this guide.

**On this page:**

- Step 1. Check the Known Issues
- Step 2. Create a Weblogic Domain
- Step 3. Configuring Confluence
- Step 4. Install Confluence with Weblogic and an External Database via Direct JDBC
- Step 5. Starting Confluence

**Step 1. Check the Known Issues**

Peruse the Known Issues for WebLogic.

**Step 2. Create a Weblogic Domain**

Assuming that your Weblogic has been installed in C:\bea, follow these steps:

1. Open Weblogic Configuration Wizard:
   
   ![ConsoleW Command](C:\bea\weblogic92\common\bin\console.exe /NOWINDOW /c"
   
   OR
   
   ![Configuration Wizard](Start >> Programs >> BEA Products >> Tools >> Configuration Wizard)

2. Choose Create New Weblogic Domain
3. Click next all the way.
4. You will be prompted to enter your Weblogic's admin account, enter and click next.
5. Sun's JDK is recommended.
6. Click next until prompted for a domain name. Enter confluence.

More information can be found in BEA documentation.

**Step 3. Configuring Confluence**

1. Download the Confluence EARWAR zip file. (You need to click the 'Show all' link to see the EARWAR zip file.)
2. Check your unzip program before extracting the downloaded zip file. Some archive-extract programs cause errors when unzipping the Confluence zip file:
   - Windows users must avoid the Windows built-in unzip utility, as it doesn't extract all the files. Use a third-party unzip program like 7Zip or Winzip.
   - Solaris users will need to use GNU tar to handle the long file names.
3. Extract the downloaded zip file.
4. You have now unzipped your Confluence installation directory, which should contain the version number e.g. confluence-3.0. This directory will be later referred to as the Confluence installation directory. Inside is a confluence subdirectory, referred to later as the (Exploded) Confluence WAR directory. Record the absolute path to the Confluence WAR directory.

5. Modify its confluence-init.properties and set Confluence Home.
   a. Inside the Confluence installation directory, edit ...confluence/WEB-INF/classes/confluence-init.properties in a text editor.
   b. Now define your Confluence Home directory, by setting the confluence.home property to a directory of your choosing. We suggest using different paths for your installation and home directories. This will facilitate upgrades. This is the directory that will contain all of Confluence's configuration, backup and attachment files.

   Tip: Another term for 'Home directory' would be 'data directory'.


7. Create a file called weblogic.xml in <confluence install directory>/WEB-INF with the following content:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<weblogic-web-app xmlns="http://www.bea.com/ns/weblogic/90"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.bea.com/ns/weblogic/90
 http://www.bea.com/ns/weblogic/90/weblogic-web-app.xsd">
  <jsp-descriptor>
    <precompile>false</precompile>
  </jsp-descriptor>
  <container-descriptor>
    <servlet-reload-check-secs>-1</servlet-reload-check-secs>
  </container-descriptor>
  <context-root>yourContextPathName</context-root>
</weblogic-web-app>
```

A possible parameter to add in your weblogic.xml is prefer-web-inf-classes:

```xml
<container-descriptor>
  <prefer-web-inf-classes>true</prefer-web-inf-classes>
</container-descriptor>
```

This parameter allows Weblogic to prefer the libraries from Confluence and in many cases helps to solve many libraries conflict. However, depending on the library version you have in your installation this parameter can also cause Confluence fail to start. If that happens you need to figure out which package is causing the conflict. A related bug reports for this issue has been filed in CONF-15163 and in CONF-15332.

The full weblogic.xml syntax is described in BEA's documentation.

Due to a bug in WebLogic 9.2's implementation of the J2EE ServletRequest certain deployment paths can lead to failed resource requests. You must avoid deploying Confluence to any of the following contexts:

- /confluence
- /resources
- /download

If you do not set the context-root in weblogic.xml Weblogic will define the context root automatically to /confluence, which is not what we want. See CONF-13712 for further details.

This problem has been fixed in Weblogic version 9.2 MP2.

Confluence must be deployed as an exploded war file to WebLogic.

Step 4. Install Confluence with Weblogic and an External Database via Direct JDBC

1. Create a Weblogic Domain eg. your_domain_name
2. Go to C:\bea\user_projects\domains\your_domain_name\lib and place the JDBC driver here.
5. On the left hand panel, click Lock & Edit
6. On the left hand panel, look up Domain Structure > your_domain_name > Deployments
7. Click on the Install button and look up for your Confluence installation folder. Eg. c:\atlassian\confluence\war\confluence-3\confluence.
8. Once you found the folder, click on the radio button and click Next all the way.
9. Name the deployment as confluence.
10. Click Finish.
11. On the left hand panel, click **Activate Changes**.

**Step 5. Starting Confluence**

1. Start your Weblogic Admin Server
2. Go to **Deployments** and locate your installed Confluence
3. Tick Confluence
4. Click on Start button and choose **Servicing all requests**
5. Click Yes

To access Confluence go to http://localhost:7001/yourContextPathName and you can proceed to Confluence Setup guide Step number 2.

**RELATED TOPICS**

**Known Issues for WebLogic**

**Known Issues for WebLogic**

**On this page:**

- Installation Instructions
- Check the Supported Versions
- Important Configuration Information
- WebLogic Configuration tips
  - Disabling JSP reload checks
  - Disabling servlet reload checks
  - Avoiding JSP recompiles on redeploy
  - Configuring CharacterEncoding
  - Configuring HTTP BASIC Auth
- Knowledge Base Articles

**Installation Instructions**

[Check out the step by step guide for help installing Weblogic.]

**Check the Supported Versions**

Check the List Of Supported Application Servers.

**Important Configuration Information**

Configuring weblogic.xml

If you are seeing the following error -- or other NoSuchMethodErrors -- then this tip is for you!

```java
java.lang.NoSuchMethodError:
org.objectweb.asm.ClassVisitor.visit(ILjava/lang/String;Ljava/lang/String;[Ljava/lang/String;Ljava/lang/String;)
```

It appears that WLS 9 ships with an incompatible version of org.objectweb.asm.* packages which clash with the ones required by Hibernate. You can fix this by adding to the weblogic.xml deployment descriptor the settings.

```xml
<container-descriptor>
  <prefer-web-inf-classes>true</prefer-web-inf-classes>
</container-descriptor>
```

Configuring web.xml

In order to run Confluence under Weblogic 9.2, you need to use a 2.4 servlet compatible version of web.xml.

This has been bundled in the main Confluence download as:

```
confluence/WEB-INF/web.servlet2-4.xml
```

To enable it, simply remove the default `confluence/WEB-INF/web.xml` and then rename `web.servlet2-4.xml` to `web.xml`. Now restart.

If you do not use the 2.4 servlet compatible version, Confluence will not be able to display its pages in a nice URL format and will render blank instead.
You will also see this error in the log file:

```
org.apache.velocity.exception.MethodInvocationException: Invocation of method 'requireResource' in class $Proxy566 threw exception java.lang.NullPointerException @ /decorators/main.vmd[1,25]
at org.apache.velocity.runtime.parser.node.ASTMethod.execute(ASTMethod.java:286)
```

Confluence Deployment Context

Due to a bug in WebLogic's implementation of the J2EE ServletRequest, certain deployment paths can lead to failed resource requests. Hence, you should avoid deploying Confluence to any of the following contexts:

- `/confluence`
- `/resources`
- `/download`

See the JIRA issue CONF-13712 for further details.

Exploded War

Confluence must be deployed as an exploded war file to WebLogic. Otherwise you may experience errors as such:

```
java.lang.IllegalStateException: Spring Application context has not been set
at bucket.container.SpringContainerContext.getComponent(SpringContainerContext.java:98)
```

WebLogic Configuration tips

### Enabling logging

Confluence sends its log output to standard out, so by default Weblogic does not record it. To redirect Confluence's log output to a file follow these instructions: [Redirecting System.out and System.err to a File](http://www.atlassian.com/software/jira/docs/latest/servers/weblogic.html)

### Disabling JSP reload checks

Performance can be considerably affected by Weblogic's tendency to scan JSPs for changes on every page load. This can be disabled by setting `pageCheckSeconds` to `-1`.

### Disabling servlet reload checks

Similar to the JSP reload checks, Weblogic will scan servlets for modifications every second (by default), hurting performance. This can be prevented by setting the `servlet-reload-check-secs` element to `-1`.

### Avoiding JSP recompiles on redeploy

If you Weblogic instance is often restarted, performance can be improved by explicitly setting a directory to save compile JSPs to (the `workingDir` parameter), and setting `precompile` to 'false'.

### Configuring Character Encoding

A user has reported that the following configuration can ensure that Chinese character sets are displayed correctly. To correct this, add the following entry to the `weblogic.xml` file:

```
<weblogic-web-app>
  <jsp-descriptor>
    <jsp-param>
      <param-name>encoding</param-name>
      <param-value>UTF-8</param-value>
    </jsp-param>
    <jsp-param>
      <param-name>compilerSupportsEncoding</param-name>
      <param-value>false</param-value>
    </jsp-param>
  </jsp-descriptor>
</weblogic-web-app>
```

Most of this page duplicates JIRA documentation - you might also like to read [http://www.atlassian.com/software/jira/docs/latest/servers/weblogic.html](http://www.atlassian.com/software/jira/docs/latest/servers/weblogic.html)

Configuring HTTP BASIC Auth

If you wish to use HTTP BASIC Auth for Confluence (this is currently required for authenticated RSS feeds), you will need to modify your `config.xml`
for your WebLogic domain as by default WebLogic will direct all BASIC Auth requests to its admin console.

Modify [WEBLOGIC_DOMAIN_LOCATION]/config/config.xml to include

```xml
<enforce-valid-basic-auth-credentials>false</enforce-valid-basic-auth-credentials>
```

to correct this.

### Knowledge Base Articles

- [Site Import Fails on Weblogic when Using PostgreSQL](#)
- [Unable to Deploy Evaluation Database on Weblogic](#)

### RELATED TOPICS

- [Installing Confluence EAR-WAR on Weblogic](#)
- [Installing Confluence EAR-WAR on Websphere](#)

This documentation provides a guide to install Confluence on Websphere 6.1 with basic settings and an external database.

### On this page:

- Step 1. Configuring the Confluence War File
- Step 2. Install Confluence in Websphere
- Step 3. Starting Confluence
- Step 4. Modifying Files in an Exploded War

After installing Websphere, follow the instructions below.

#### Step 1. Configuring the Confluence War File

1. Download the Confluence EAR/WAR zip file. (You need to click the 'Show all' link to see the EAR/WAR zip file.)
2. Check your unzip program before extracting the downloaded zip file. Some archive-extract programs cause errors when unzipping the Confluence zip file:
   - Windows users must avoid the Windows built-in unzip utility, as it doesn't extract all the files. Use a third-party unzip program like 7Zip or Winzip.
   - Solaris users will need to use GNU tar to handle the long file names.
3. Extract the downloaded zip file.
4. You have now unzipped your Confluence installation directory, which should contain the version number e.g. confluence-2.10.0 or confluence-2.10.2. This directory will be later referred to as the Confluence installation directory. Inside is a confluence subdirectory, referred to later as the (Exploded) Confluence WAR directory. Record the absolute path to the Confluence WAR directory.
5. Modify its confluence-init.properties and set Confluence Home.
   a. Inside the Confluence installation directory, edit ...confluence/WEB-INF/classes/confluence-init.properties in a text editor.
   b. Now define your Confluence Home directory, by setting the confluence.home property to a directory of your choosing. We suggest using different paths for your installation and home directories. This will facilitate upgrades. This is the directory that will contain all of Confluence's configuration, backup and attachment files.
   Tip: Another term for 'Home directory' would be 'data directory'.
6. For Confluence versions 2.10.1, 2.10.2 and 2.10.3, delete the package-scanner-0.7.2.jar from the WEB-INF/lib directory, and place it in its place. See Known Issues for Websphere.
7. Add your database driver jar file to the WEB-INF/lib directory. If your driver already exists in the main classpath and is used for other applications, you can skip this step. Check the Database Installation Instructions. If you're not already committed, we recommend Postgres.

```
The built-in database may not work on a Websphere deployment.
```

8. Build the war file.

**Windows**

- a. Open the command line prompt
- b. Navigate to the Confluence installation directory
- c. Run the command `build war`
### Step 2. Install Confluence in Websphere

1. Start Websphere Admin Server.
3. On the left hand panel, click **Servers > Application Servers**.
4. Select your server.
5. Choose **Allow** for **Access to internal server classes**.
6. Choose **Multiple** for **ClassLoader Policy**.
7. On the left hand panel, click **Applications > Enterprise Applications**.
8. Import your war. Note your context path and choose all the defaults.
9. Once the war file is imported, select it, then choose **Class loading and update detection**.
10. Select **Classes loaded with application class loader first** and **Single class loader for application**.
11. Restart Websphere to make sure that all settings are picked up.

### Step 3. Starting Confluence

1. Start your Websphere Server.
2. Go to **Applications > Enterprise Applications** and locate your installed Confluence.
3. Tick the box next to the Confluence war file and click **Start**.

To access Confluence go to [http://localhost:9080/contextPath](http://localhost:9080/contextPath)

### Step 4. Modifying Files in an Exploded War

It's a bit inconvenient to modify files - add patches or configure velocity or xml files - if you have to rebuild and redeploy the war file. Websphere requires deploying Confluence as a built .war archive originally. After that, however, you can drop files in the exploded war directory and restart the server to pick up changes (just the application isn't enough, given classloading issues). For the case of Velocity (vm or vmd) files or jsp files, you don't even need to reload the application - just refresh your page!

A typical exploded war directory might be found in a path similar to:

```
/usr/lib/IBM/WebSphere/AppServer/profiles/AppSrV03/installedApps/serverName-laptopNode01Cell/confluence-2_10_2_war.ear/confluence-2.10.2.war/
```

Keep in mind that this isn't a technique for deploying war files, but rather for modifications *after* deploy.

### Related Topics

- **Known Issues for Websphere**
- **Websphere JVM Tuning**

### Known Issues for Websphere

On this page:

- Installation Instructions
- Version Requirements
- Classloader settings
- Oracle and Data Sources
- Configuring Encoding
- Known Issues

**Installation Instructions**

See the [Installing Confluence EAR-WAR on Websphere](#) page for step-by-step instructions.

**Version Requirements**

Visit the [List Of Supported Application Servers](#).

**ClassLoader settings**
Confluence 3.0 Documentation

Confluence 3.0

Confluence 3.0 uses the Plugins 2 framework. The default classloader settings for WebSphere interferes with Plugins 2 dependencies.

The solution is to ensure your WebSphere application is configured with the following settings:

1. Application classloader policy to SINGLE
2. Application classloader mode to child-first

Please refer to Running on WebSphere 6.1 for more details.

Oracle and Data Sources

Please use a direct JDBC connection instead. See CONF-3580 for more details.

Configuring Encoding

I am having trouble with the £ and € characters

Confluence allows you to specify which character encoding should be used for its requests. To use the £ and € characters, you will need to use the "UTF-8" option. However, in some cases, WebSphere will encode the characters using ISO-8859-1 before they get to Confluence. If you have set the Confluence character encoding to "UTF-8" and are having problems, have a look at http://www-306.ibm.com/software/globalization/j2ee/encoding.jsp for an explanation of WebSphere and Character encoding. In particular, the -Dclient.encoding.override=UTF-8 system property allows you to override WebSpheres defaults.

Known Issues

1. NoClassDefFoundError due to Path Size Limit in Windows
2. Unable to install Confluence on WebSphere 6.1
3. MalformedInputException when rebuilding the Did You Mean search index
4. Formatting Buttons Missing on Toolbar of Rich Text Editor due to Application Security on WebSphere
5. Problems Loading Plugins due to org.osgi.framework.BundleException
6. Personal Space Results in 500 Error due to Siteminder Configuration
7. Unable to Configure Oracle Data Source in WebSphere
8. Unable to Install Oracle on WebSphere due to Classloader Preferences

Installing Confluence EAR-WAR on Resin

This documentation provides a guide to install Confluence on Resin with basic settings and an external database.

On this page:

- Step 1. Check the Known Issues
- Step 2. Configuring the Confluence War File
- Step 3. Install Confluence in Resin
- Step 4. Starting Confluence

Step 1. Check the Known Issues

Check the Known Issues for Resin 3.x page before proceeding.

Step 2. Configuring the Confluence War File

1. Download the Confluence EAR/WAR zip file. (You need to click the 'Show all' link to see the EAR/WAR zip file.)
2. Please check your unzip program before extracting the downloaded zip file. Some archive-extract programs cause errors when unzipping the Confluence zip file:
   - Windows users must avoid the Windows built-in unzip utility, as it doesn't extract all the files. Use a third-party unzip program like 7Zip or Winzip.
   - Solaris users will need to use GNU tar to handle the long file names.
3. Extract the downloaded zip file.
4. You have now unzipped your Confluence installation directory, which should contain the version number e.g. confluence-2.10.0 or confluence-2.10.2. This directory will be later referred to as the Confluence installation directory. Inside is a confluence subdirectory, referred to later as the (Exploded) Confluence WAR directory. Record the absolute path to the Confluence WAR directory.
5. Modify confluence-init.properties and set Confluence Home.
   a. Inside the Confluence installation directory, edit /WEB-INF/classes/confluence-init.properties in a text editor.
b. Now define your Confluence Home directory, by setting the confluence.home property to a directory of your choosing. We suggest using different paths for your installation and home directories. This will facilitate upgrades. This is the directory that will contain all of Confluence's configuration, backup and attachment files.

Tip: Another term for 'Home directory' would be 'data directory'.

6. Add your database driver jar file to the WEB-INF/lib directory. If your driver already exists in the main classpath and is used for other applications, you can skip this step. Check the Database Installation Instructions. If you're not already committed, we recommend Postgres.


Step 3. Install Confluence in Resin

1. Move the Confluence war directory to Resin's webapps folder. You are deploying the exploded war file which is supported in Resin.

   If you'd like to run Confluence without a context path, rename the folder to ROOT and remove the existing ROOT folder.

Step 4. Starting Confluence

1. Start Resin. Use the shell script in the bin folder or resin.jar in the lib folder.

To access Confluence go to http://localhost:8080/contextPath

Known Issues for Resin 3.x

On this page

- Installing Confluence on Resin
- Check that your version is supported
- Configure Resin to use a XSD-aware parser
- Resin and SOAP
- Configure web.xml
- Knowledge Base Articles

Installing Confluence on Resin

Check out the Resin step-by-step installation instructions

Check that your version is supported

Visit the List Of Supported Application Servers.

Configure Resin to use a XSD-aware parser

Confluence is bundled with Xerces, which is an XSD-aware parser. Instructions on how to configure resin to use Xerces can be found here. Please ensure the Xerces related directives are added directly within the <resin> tag and not embedded inside the <server> tag. For more information, refer to the Spring Framework documentation.

Resin and SOAP

If you want to use Confluence's SOAP interface under Resin, you will need to follow these instructions.

Configure web.xml

Confluence will not start in Resin without proper configuration of the web.xml file.

Resin 3.0 does not correctly support the Servlet 2.3 specification. Confluence relies on this specification to function. If you use Confluence under Resin 3.0:

- You can't seem to stay logged in, and are continually asked to enter your username and password
- The Edit tab (or other links) only appear if you grant Anonymous users permission to perform those functions
See also:

- CONF-1000
- CONF-1509
- CONF-1511
- CONF-3397

The solution is to modify Confluence's `web.xml` file so that it is conformant with the Servlet 2.4 specification. The resin file is bundled with Confluence distributions - you can find it in the `/WEB-INF` folder. A big thanks to Matthew Schmidt for supplying us with this workaround.

---

**Knowledge Base Articles**

- Confluence and SOAP on Resin

---

**Installing Confluence EAR-WAR on JBoss**

On this page:

- Step 1. Configuring the Confluence War File
- Step 2: (optional) Create a Data Source Deployment Descriptor
- Step 3: Deploy Confluence
- Troubleshooting

After installing JBoss, follow the instructions below.

**Step 1. Configuring the Confluence War File**

1. Download the Confluence EAR/WAR zip file. (You need to click the 'Show all' link to see the EAR/WAR zip file.)
2. Check your unzip program before extracting the downloaded zip file. Some archive-extract programs cause errors when unzipping the Confluence zip file:
   - Windows users must avoid the Windows built-in unzip utility, as it doesn't extract all the files. Use a third-party unzip program like 7Zip or Winzip.
   - Solaris users will need to use GNU tar to handle the long file names.
3. Extract the downloaded zip file.
4. You have now unzipped your Confluence home directory, which should contain the version number e.g. `confluence-2.10.2`. This directory will be later referred to as the `<CONFLUENCE-BUILD-HOME>`_. Inside is a `confluence` subdirectory, referred to later as the (Exploded) Confluence WAR directory.
5. Modify its `confluence-init.properties` and set Confluence Home.
   a. Inside the Confluence installation directory, edit `confluence/WEB-INF/classes/confluence-init.properties` in a text editor.
   b. Now define your Confluence Home directory, by setting the `confluence.home` property to a directory of your choosing.
   - Tip: Another term for 'Home directory' would be 'data directory'.
6. Add your database driver jar file to the WEB-INF/lib directory. If your driver already exists in the main classpath and is used for other applications, you can skip this step. Check the Database Installation Instructions. If you're not already committed, we recommend Postgres.
7. Create a new file `jboss-web.xml` with the following content:

```xml
<jboss-web>
  <context-root>confluence</context-root>
</jboss-web>
```

8. Build the war file.

<table>
<thead>
<tr>
<th>Windows</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
</tr>
<tr>
<td>i. Open the command line prompt</td>
</tr>
<tr>
<td>ii. Navigate to the Confluence installation directory</td>
</tr>
<tr>
<td>iii. Run the command <code>build war</code></td>
</tr>
</tbody>
</table>

<table>
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<th>Linux</th>
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<tbody>
<tr>
<td>a.</td>
</tr>
<tr>
<td>i. Open a terminal window</td>
</tr>
<tr>
<td>ii. Navigate to the Confluence installation directory</td>
</tr>
<tr>
<td>iii. Add executable mode to <code>build.sh</code> — <code>chmod +x build.sh</code></td>
</tr>
<tr>
<td>iv. Run <code>build.sh</code></td>
</tr>
<tr>
<td>v. The WAR file is now located in the <code>dist</code> subfolder in your Confluence installation directory</td>
</tr>
</tbody>
</table>

**Step 2: (optional) Create a Data Source Deployment Descriptor**

---

364
If you want to use a container managed data source, you need to tell JBoss to create a new datasource for you.

1. Create a new file `confluence-ds.xml` with the following content (This will be deployed in `$JBoss_HOME/server/default/deploy`):

   ```xml
   <?xml version="1.0" encoding="UTF-8"?>
   <datasources>
     <local-tx-datasource>
       <jndi-name>ConfluenceDS</jndi-name>
       <connection-url>jdbc:postgresql://localhost/confluence</connection-url>
       <driver-class>org.postgresql.Driver</driver-class>
       <user-name>confluence</user-name>
       <password>confluence</password>
       <min-pool-size>5</min-pool-size>
       <max-pool-size>10</max-pool-size>
     </local-tx-datasource>
   </datasources>
   ``

2. When you configure the database in the Confluence Setup Guide, choose to "Connect via a Data Source". The JNDI name will be `java:/ConfluenceDS`. So enter this value in the appropriate field.

Step 3: Deploy Confluence

1. If you made one, copy `confluence-ds.xml` to `$JBoss_HOME/server/default/deploy`
2. Copy `<CONFLUENCE-BUILD-HOME>/dist/confluence-x.x.x.war` to `$JBoss_HOME/server/production/deploy`
3. If you didn’t put one in the war file’s lib folder, check that you have the correct JDBC driver in `$JBoss_HOME/server/production/lib`
4. Start JBoss watching the logs for any errors.
5. You can access Confluence via `http://localhost:8080/confluence` and proceed to the Confluence Setup Guide.

Troubleshooting

Please refer to Known Issues for JBoss.

Known Issues for JBoss

- A Quick Note about Confluence and JBoss
- JBoss and Multiple Application Deployments
- JBoss Root Logging
  - Additional log4j.xml Configuration
- International Characters in Attachment File Names
- `-Dorg.apache.catalina.STRICT_SERVLET_COMPLIANCE` startup directive
- Problem with loading "agenda" on JBoss (order of dependencies)
  - Problem description:
  - Solution
  - Explanation
  - References

A Quick Note about Confluence and JBoss

Confluence does not make any use of the JBoss container beyond its embedded Tomcat web application server, as can be easily demonstrated by the fact that our Confluence standalone distribution ships with and runs entirely inside, Tomcat. In addition deploying Confluence inside JBoss can cause additional problems, as described below.

While JBoss is a supported platform, and (subject to the limitations below) you can deploy Confluence into it successfully, we recommend that unless there is some overriding reason to run JBoss - i.e. you are making use of its specific management features, or you’re already running several other JBoss servers and want to keep your deployments consistent - you just run Confluence directly under Tomcat instead.

JBoss and Multiple Application Deployments

Atlassian does not currently support configuring Confluence on the same JBoss instance as an existing Confluence or JIRA server.

Due to JBoss’s inventive interpretation of the J2EE Classloader specification, multiple applications deployed on the same JBoss instance can interfere with each other. The most common symptom of this problem from the Confluence side is for a user to be unable to edit their profile (although it causes many other seemingly random problems). As such, we do not recommend running Confluence on the same JBoss instance as any other J2EE application.

This issue is reported in CONF-1635.

Some customers have reported success having Confluence share a server with other Confluence or JIRA instances by tweaking their classloader settings or server configurations. A number of recipes for doing so are mentioned below in comments. We currently have not verified these configurations at Atlassian. You’re welcome to try them yourself, but if they do not work for you, we can not currently provide...
support getting them to work.

**JBoss Root Logging**

On starting up Confluence under JBoss, you may see the following message logged to the console:

```
ERROR [lifecycle] The root log4j logger is set to DEBUG level. This may cause Confluence to run slowly.
ERROR [lifecycle] If you are running Confluence under JBoss, please read
http://confluence.atlassian.com/x/PtAB
ERROR [lifecycle] To disable this error message, start Confluence with the system property
    -Dconfluence.ignore.debug.logging=true
```

By default, JBoss ships with the root confluence logger set to DEBUG level. This means that Confluence (and any other log4j-enabled application deployed in the JBoss server) will spend a lot of time generating debugging information that will just end up wasting processor cycles and disk space.

To fix this problem, edit the `conf/log4j.xml` file in your JBoss server installation. Find the following section:

```
<root>
    ...
</root>
```

Replace it with this:

```
<root>
    <priority value="warn" />
    ...
</root>
```

This will raise the default log level to WARN, which is where Confluence is most comfortable running day-to-day. Logging at INFO level should also be safe, but it will result in a lot more unnecessary information being logged. We recommend you keep Confluence logging at WARN level unless something is going wrong that you need to diagnose (or you’re asked to log at a lower level by support).

**Additional Configuration**

The Confluence `log4j.properties` file includes some additional logging configuration, which is overridden by JBoss’s `log4j.xml`. To set logging to the same level as the standard Confluence distribution, you should include the following in `log4j.xml` immediately above the root declaration you edited above.

```
<logger name="com.atlassian.confluence.lifecycle" additivity="false">
    <level value="INFO"/>
    ...
</logger>
<logger name="com.atlassian.confluence.upgrade" additivity="false">
    <level value="INFO"/>
    ...
</logger>
```

**International Characters in Attachment File Names**
JBoss uses Apache Tomcat as its servlet engine. To support international characters in URLs it is not sufficient to only configure JBoss to use an encoding such as UTF-8; you must also configure Tomcat to process URLs using your selected encoding.

Inside JBoss you'll find the tomcat server.xml here:

```
<jboss home>/server/default/deploy/jbossweb-tomcat55.sar/server.xml
```

Here is an example configuration for the HTTP connector listening on port 8080:

```
<!-- A HTTP/1.1 Connector on port 8080 -->
<Connector port="8080" address="@$jboss.bind.address" maxThreads="250" strategy="ms" maxHttpHeaderSize="8192"
        emptySessionPath="true"
        enableLookups="false"redirectPort="8443" acceptCount="100"
        connectionTimeout="20000" disableUploadTimeout="true" URIEncoding="UTF-8"/>
```

Note the URIEncoding attribute should be set to your desired character encoding.

**-Dorg.apache.catalina.STRICT_SERVLET_COMPLIANCE startup directive**

If you are experiencing a problem with missing images when generating a PDF page export and following error is found in the logs:

```
[30-10-2007 05:10:41.944] [249524602] [STDOUT] [INFO ] [ajp-0.0.0.0-61781-15] 2007-10-30 05:10:41,939 ERROR [ajp-0.0.0.0-61781-15] [confluence.importexport.impl.AbstractExporterImpl]
exportResource The image /Wiki/download/attachments/39308/Overview1-1.gif cannot be exported
-- url: /Wiki/pages/doexportpage.action | userName: mimzg | action: doexportpage | page: 39308
javax.servlet.ServletException: Original ServletResponse or wrapped original ServletResponse not passed to RequestDispatcher in violation of SRV.8.2 and SRV.14.2.5.1
```

This is due to more strict Servlet 2.5 specifications on JBoss.

This can be experienced on JBossAS-4.2.0.GA and can be fixed by adding the following startup directive to the server and restarting it:

```
-Dorg.apache.catalina.STRICT_SERVLET_COMPLIANCE=false
```

**Problem with loading "agenda" on JBoss (order of dependencies)**

```
Thanks to Kevin Merigot from KapIT
```

JBoss 4.2 and datasource configured for MySQL

- descriptors configured in mysql-ds.xml and references in standardjboss-jdbc.xml
- Confluence is configured to use this datasource confluenceDS.

**Problem description:**

1. JBoss Server is running
2. Starting Confluence App
3. Error NameNotFoundException : confluenceDS not bound - fail to load confluence
4. Datasource is being loaded DefaultDS and confluenceDS

```
Checking the JBoss console will confirm that indeed the datasource is loaded. What's going on ?
```

**Solution**

1. Reload Confluence manually without restarting JBoss server.
2. Confluence is able to reach the datasource.

**Explanation**

The order of dependencies have to be configured to load the datasource prior to starting services or web application such as Confluence. i.e. one can not load web applications at all if the datasource is unavailable!

This can be configured in /jboss-web.deployer/META-INF/jboss-service.xml

Specifically:
The above line configures JBoss to load the specific datasource before loading the web app.

References
- Admin guide
- App server build

**Java 1.4 Support Timeline**

This notice was first published on January 4th, 2008, and later updated with the release of Confluence 2.9. As from Confluence 2.9, Java 1.4 is no longer supported. You will need Java 5 or later.

**What is happening?**

As part of the ongoing development of Confluence, we have raised our minimum supported version of the Java platform.

- Confluence version 2.8 was the last major version to support Java 1.4.
- Confluence 2.9 and later require at least Java 5.

**What does this mean to me?**

**I use Confluence**

Users of Confluence websites should see absolutely no change.

**I administer a Confluence Server**

If you are running Confluence 2.8 or one of the 2.8.x patch releases, your current version of Confluence will continue to run in your current environment without change.

If you choose to upgrade to Confluence 2.9, you will need to ensure your environment is running at least Java 5.

You can check your current Java version in Confluence:

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'System Information' from the 'Administration' section in the left-hand panel.
3. Refer to 'Java Version'.
   - If the version is 1.5 or higher, you do not need to do anything.
   - If the version is 1.4, you need to upgrade your JDK before you can upgrade to Confluence 2.9.

If you are running the Confluence EAR-WAR edition against your own application server, you will need to check with your application server vendor about which JDK versions are supported.

**I am a Confluence Plugin/Extension Developer**

Plugin developers who want their plugins to work on Confluence 2.8 and earlier should continue to compile their plugins with the Java 1.4 compiler. Plugin developers specifically targeting Confluence 2.9 and later should use the Java 5 compiler and Java 5 language features.

**Why Now?**

Our normal policy for JDK support is to follow Sun's Java Technology End-of-Life policy, where only the most recent three major versions of Java are supported. On Sun's original timeline for the release of Java 7, Java 1.4 would have been scheduled for EOL in (Northern Hemisphere) Spring 2008. Sun's release roadmap for Java 7 has since been pushed back to 2009, but we feel that it is in the best interests of Confluence to stick to the original schedule.

Given Java 1.4's near-obsolete, saved only by the slipping schedule of Java 7, IT departments should already be planning to transition away from Java 1.4. Our surveys of customers suggest that most are already running Java 5, and those that don't are running application servers that can easily support the new version. As such, the cost of continuing to support the old version, both in developer and support resources, cannot really be justified.

Progress on this issue can be tracked here: CONF-10365

**List Of Supported Application Servers**

*Supported and Compatible J2EE Application Servers*
Confluence supports the following application servers, provided they are running on a Windows, Unix (NetBSD, FreeBSD, OpenBSD, Solaris, Linux), Mac OS X on x86 or x86-64 processors.

<table>
<thead>
<tr>
<th>Application Server</th>
<th>Supported in Confluence 3.0 (JUN/2009)</th>
<th>Works with Confluence 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache Tomcat</td>
<td>5.5.20+, 6.0</td>
<td>5.5</td>
</tr>
<tr>
<td>BEA Weblogic</td>
<td>9.2</td>
<td>9.1, 10</td>
</tr>
<tr>
<td>IBM Websphere Application Server</td>
<td>6.1</td>
<td></td>
</tr>
<tr>
<td>Caucho Resin</td>
<td>3.0, 3.1.6, 3.1.7</td>
<td></td>
</tr>
<tr>
<td>JBoss</td>
<td>4.2</td>
<td></td>
</tr>
</tbody>
</table>

ён Column labelled 'Works with' as opposed to 'Supported in': We assume that Confluence works fine with these application server versions. Please be aware, however, that we do not test these versions regularly. Hence, we may request that you migrate to a supported version first before we can provide more detailed support.

Please see configuration guides for supported application servers.

If you have no preference, we recommend using Confluence Standalone which includes Apache Tomcat.

Unsupported J2EE Application Servers

From Confluence 2.10 and later, the following application servers are no longer supported:

- Tomcat 5.0 — please migrate to Tomcat 5.5 or 6
- Resin 2 — please migrate to Resin 3.0 or 3.1
- JBoss 4.0.x — please migrate to JBoss 4.x.

Currently, we do not officially support JBoss 5.x. However, a request has been created (CONF-16432) for official support of this application server.

The decision to deprecate these platforms was announced previously.

Potentially Compatible Application Servers

The following application servers may work with Confluence. Whilst they are not known to possess any problems or incompatibilities with Confluence, they have not been sufficiently tested to be considered a compatible Application Server. Consequently, they are not supported.

J2EE Application Servers:
- Macromedia JRun

Non J2EE Application Servers:
- Microsoft IIS Server

Refer to the Supported Platforms FAQ.

Known Incompatible J2EE Application Servers

The following application servers may (in part) work with Confluence. However, they are known to possess problems or incompatibilities with Confluence and consequently are not supported.

- Oracle OC4J / Oracle Application Server — see reported issue
- Sun Application Server — see reported issue
- GlassFish — see reported issue
- SAP-J2EE — see reported issue

RELATED TOPICS:
- Server Hardware Requirements Guide
- List Of Supported Databases
- List Of Supported Operating Systems
- System Requirements
- Supported Platforms FAQ

Server Hardware Requirements Guide

Server administrators can use this guide in combination with the free Confluence trial period to evaluate their server hardware requirements. Because server load is difficult to predict, live testing is the best way to determine what hardware a Confluence instance will require in production.

Peak visitors are the maximum number of browsers simultaneously making requests to access or update the Confluence server. Visitors are
counted from their first page request until the connection is closed and if public access is enabled, this includes internet visitors as well as logged in users. Storage requirements will vary depending on how many pages and attachments you wish to store inside Confluence.

**Minimum Hardware Requirements**

On small instances, server load is primarily driven by peak visitors.

5 Concurrent Users
- 2GHz+ CPU
- 512MB RAM
- 5GB database space

25 Concurrent Users
- Quad 2GHz+ CPU
- 2GB+ RAM
- 10GB database space

ℹ️ Please be aware that while some of our customers run Confluence on SPARC-based hardware, Atlassian only officially supports Confluence running on x86 hardware and 64-bit derivatives of x86 hardware.

**Example Hardware Specifications**

These are example hardware specifications for non-clustered Confluence instances. It not recorded whether the RAM refers to either total server memory or memory allocated to the JVM, while blank settings indicate that the information was not provided.

<table>
<thead>
<tr>
<th>Accounts</th>
<th>Spaces</th>
<th>Pages</th>
<th>CPUs</th>
<th>CPU (GHz)</th>
<th>RAM (Meg)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>30</td>
<td>1,000</td>
<td>1</td>
<td>2.6</td>
<td>1,024</td>
<td></td>
</tr>
<tr>
<td>350</td>
<td>100</td>
<td>15,000</td>
<td>2</td>
<td>2.8</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>5,000</td>
<td>500</td>
<td>4</td>
<td>3</td>
<td>2.024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10,000</td>
<td>350</td>
<td>16,000</td>
<td>2</td>
<td>3.8</td>
<td>2,024</td>
<td></td>
</tr>
<tr>
<td>10,000</td>
<td>60</td>
<td>3,500</td>
<td>2</td>
<td>3.6</td>
<td>4,048</td>
<td></td>
</tr>
<tr>
<td>21,000</td>
<td>950</td>
<td>2</td>
<td>3.6</td>
<td>4,048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85,000</td>
<td>100</td>
<td>12,500</td>
<td>4</td>
<td>2.6</td>
<td>4,048</td>
<td>3 machines total: application server, database server, Apache HTTPD + LDAP tunnel server. See Accenture’s slides and video for full details</td>
</tr>
</tbody>
</table>

**Server Load & Scalability**

When planning server hardware requirements for your Confluence deployment, you will need to estimate the server scalability based on peak visitors, the editor to viewer ratio and total content.

- The editor to viewer ratio is how many visitors are performing updates versus those only viewing content
- Total content is best estimated by a count of total spaces

Confluence scales best with a steady flow of visitors rather than defined peak visitor times, few editors and few spaces. Users should also take into account:

- Total pages is not a major consideration for performance. For example, instances hosting 80K of pages can consume under 512 meg of memory
- Always use an external database

As mentioned on the documentation for Operating Large or Mission-Critical Confluence Installations, some important steps are loadtesting your usecase and monitoring the system continuously to find out where your system could do better and what might need to improve in order to scale further.

**Maximum Reported Usages**

These values are largest customer instances reported to Atlassian or used for performance testing. Clustering for load balancing, database tuning and other performance tuning is recommended for instances exceeding these values.

- Most Spaces: 1700
- Most Internal Users: 15K
- Most LDAP Users: 100K
Most Pages 80K

**Hard Disk Requirements**

All wiki content is stored in the database, while attachments use either the database or filesystem. For example, the wiki instance you are reading now uses approximately 1 GB of database space and 9.4 GB of disk space.

Here is a breakdown of the disk usage requirements for this wiki, as at December 2008:

<table>
<thead>
<tr>
<th>Database size</th>
<th>1003 MB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home directory size</td>
<td>9.4 GB</td>
</tr>
</tbody>
</table>

**Size of selected database tables**

<table>
<thead>
<tr>
<th>Data</th>
<th>Rows</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content bodies (incl. all versions of blogs, pages and comments)</td>
<td>170462</td>
<td>145 MB</td>
</tr>
<tr>
<td>Content metadata (incl. title, author)</td>
<td>188697</td>
<td>48 MB</td>
</tr>
<tr>
<td>Content and user properties</td>
<td>193652</td>
<td>42 MB</td>
</tr>
<tr>
<td>Users</td>
<td>20679</td>
<td>5.8 MB</td>
</tr>
<tr>
<td>Attachment metadata</td>
<td>25718</td>
<td>5.0 MB</td>
</tr>
<tr>
<td>Labels</td>
<td>43235</td>
<td>4.5 MB</td>
</tr>
</tbody>
</table>

Note: not all database tables or indexes are shown, and average row size may vary between instances.

**Size of selected home directory components**

<table>
<thead>
<tr>
<th>Data</th>
<th>Files</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachments (incl. all versions)</td>
<td>27484</td>
<td>5.9 GB</td>
</tr>
<tr>
<td>Usage index (now disabled)</td>
<td>240</td>
<td>2.6 GB</td>
</tr>
<tr>
<td>Search index</td>
<td>10</td>
<td>236 MB</td>
</tr>
<tr>
<td>Office Connector cache</td>
<td>44</td>
<td>222 MB</td>
</tr>
<tr>
<td>Temporary files</td>
<td>7269</td>
<td>201 MB</td>
</tr>
<tr>
<td>Plugin files</td>
<td>1508</td>
<td>139 MB</td>
</tr>
<tr>
<td>Thumbnails</td>
<td>10154</td>
<td>84 M</td>
</tr>
<tr>
<td>Did-you-mean search index</td>
<td>3</td>
<td>9.9 MB</td>
</tr>
</tbody>
</table>

Note: not all files are shown, and average file size may vary between instances.

**Private & Online Comparison**

Private instances manage their users either internally or through a user repository such as LDAP, while online instances have public signup enabled and must handle the additional load of anonymous internet visitors. Please keep in mind that these are examples only, not recommendations:

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Spaces</th>
<th>User Accounts</th>
<th>Editors</th>
<th>Editor To Viewer Ratio</th>
<th>Pages</th>
<th>Page Revisions</th>
<th>Attachments</th>
<th>Comments</th>
<th>Total Data Size (GB)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Documentation</td>
<td>140</td>
<td>11,500</td>
<td>1,000</td>
<td>9%</td>
<td>8,800</td>
<td>65,000</td>
<td>7,300</td>
<td>11,500</td>
<td>10.4</td>
<td><img src="https://confluencewiki.com" alt="Accenture - see slides and video for full details" /></td>
</tr>
<tr>
<td>Private Intranet</td>
<td>130</td>
<td>180</td>
<td>140</td>
<td>78%</td>
<td>8,000</td>
<td>84,000</td>
<td>3,800</td>
<td>500</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Company-Wide Collaboration</td>
<td>100</td>
<td>85,000</td>
<td>1,000+</td>
<td>1%+</td>
<td>12,500</td>
<td>120,000</td>
<td>15,000</td>
<td></td>
<td></td>
<td><strong>Accenture - see slides and video for full details</strong></td>
</tr>
</tbody>
</table>
**Professional Assistance**

For large instances, it may be worthwhile contacting an Atlassian partner for expertise on hardware sizing, testing and performance tuning. Simply contact a local partner directly or email our partner manager for a recommendation.

**Related Pages**

- Powered By Confluence
- Example Size & Hardware Specifications From Customer Survey
- Confluence Installation Guide
- Managing Application Server Memory Settings
- Confluence Clustering Overview
- Operating Large or Mission-Critical Confluence Installations

**Setting the JAVA_HOME Variable in Windows**

This information is only relevant if you are installing Confluence on a Windows server.

After you have installed the Java Development Kit in Windows, you must set the JAVA_HOME variable to the installation directory.

Please check that you have a JDK or SDK — Java JRE is not enough

A common problem is that people have only installed the Java Runtime Environment (JRE). You need either a Java Development Kit (JDK) or J2SE Software Development Kit (SDK). To confirm that you have the right version, you can check the Java installation path. Unless you changed the path during installation, Java will be installed to a subdirectory under C:\Program Files\Java, for example `C:\Program Files\Java\jdk1.5.0_02`

Open `C:\Program Files\Java` and confirm the installation path is for a JDK or SDK. JRE installations are not suitable, and have an installation directory beginning with `jre`. The numbers after the `jre` are not relevant. Example JREs are:

- `jre1.4.0_02`
- `jre1.5.0_14`

SDK and JDK installations are suitable. Their installation directory begins with `jdk` or `j2sdk`, the numbers at the end are not relevant. Example JDK and SDKs are:

- `jdk1.5.0_02`
- `j2sdk1.5.0_09`

Any installation directory starting with `jdk` or `j2sdk` is valid. If you cannot see an installed JDK or SDK, install the JDK now from the JDK download site.

**Stage 1. Locate the JDK Installation Directory**

If you already know the installation path for the Java or Software Development Kit, go to **Stage 2** below. Otherwise, find the installation path by following these instructions:

1. Unless you changed the installation path for the Java Development Kit during installation, it will be in a directory under `C:\Program Files\Java`. Using Explorer, open the directory `C:\Program Files\Java`.
2. Inside that path will be one or more subdirectories such as `jdk1.5.0_08`. If you have just installed the Java Development Kit, it will be installed to the newest directory, which you can find by sorting by date. For example, it may be installed in `C:\Program Files\Java\jdk1.5.0_08`. This is the installation path.

**Stage 2. Set the JAVA_HOME Variable**

Once you have identified the JDK installation path:

1. Right-click the **My Computer** icon on your desktop and select **Properties**.
2. Click the 'Advanced' tab.
3. Click the 'Environment Variables' button.
4. Under 'System Variables', click 'New'.
5. Enter the variable name as `JAVA_HOME`.
6. Enter the variable value as the installation path for the Java Development Kit.
7. Click 'OK'.
8. Click 'Apply Changes'.
9. If you are running Confluence as a EAR/WAR rather than the Standalone, you may need to restart your application server.
This diagram shows setting the JAVA_HOME variable to an installation path of c:/j2sdk1.4.2:

If you came here from Installing Confluence Standalone Using the Automatic Installer, go back and begin Stage 3.

**RELATED TOPICS**

Installing Confluence Standalone Using the Automatic Installer
Starting Tomcat as a Windows Service
Installing Confluence in Linux

**System Requirements**

Please review the system requirements below before installing Confluence.

**Client Requirements**

You can use the following web browsers to access Confluence:

The **currently supported browsers** are:

- Microsoft Internet Explorer 6.0 and 7.0
- Mozilla Firefox 2.0.x and 3.0.x
- Safari 2.0 (no rich-text editing), 3.0 and 3.1

We recommend using the latest production-level versions of these browsers: Firefox 3, Safari 3, Internet Explorer 7. Newer browser versions tend to perform better and have fewer bugs. In particular we strongly suggest using IE7 instead of IE6.

**Support for Internet Explorer 6**

Confluence will support IE6 until the 13th of July, 2010, in line with Microsoft's Support Lifecycle policy. Confluence 3.0 and future versions through 2009 will continue to support IE6.

**Other Client Requirement Information**

More information about browser support and why rich-text editing is only available for some browsers can be found on the browser support page.

**Server Requirements**
Confluence works with a broad range of operating systems, database systems and application servers. Provided you have the technical knowledge, it is very likely that you will be able to run Confluence with an 8-year-old database, or even on some 8-year-old hardware. Realistically, it is not technically feasible for us to provide our legendary support service on all environments available. There can only be a finite number of environments and release versions of those that we support.

Our rule of thumb when releasing a new version of Confluence is that we will officially support environments that have been released within the last one to two years (latest version if none released). This does not necessarily mean you need to upgrade your database or application server every time you upgrade Confluence — but if you do run into problems with an unsupported database version or application server version, we may have to ask you to upgrade to something newer.

**Example:** You run Confluence 2.7.3 on PostgreSQL 8.0, and everything works fine. You decide to upgrade to Confluence 2.8, which is officially supported only on PostgreSQL 8.1. Chances are that you can run Confluence 2.8 with PostgreSQL 8.0 with no problems whatsoever. You can simply try for yourself if you feel that upgrading PostgreSQL at the same time is too much of a hassle. If you run into problems later, we will try to help you even though you are on an officially unsupported platform, and we probably will be able to help you. But if we can’t, then we may ask you to upgrade to PostgreSQL 8.1 or 8.2 before we dive deeper into the problem. If you know beforehand that a database upgrade is not viable, then it is best that you consider delaying the upgrade of Confluence.

For further information please also have a look at our [Supported Platforms FAQ](#).

---

**Atlassian’s Hosted solutions are an alternative**

If you feel that the above sounds complicated — how about using our hosted solutions? We can run and maintain your wiki on our servers and deal with all the testing, monitoring and upgrading processes for you! Have a look at our [Confluence Hosted website](#) and our integrated [JIRA Studio website](#) for more details.

---

**Operating System**

**Confluence on Virtualised Environments**

We are proud to announce that Atlassian officially supports non-clustered installations of Confluence 3.0 and later on VMware. Although possible, we do not recommend running versions of Confluence prior to 3.0 on VMware, since Confluence 3.0 resolved many performance issues that were present in earlier versions. Be aware that we do not support clustered installations of Confluence on VMware. For more information, please refer to [Running Confluence in a Virtualised Environment](#).

While some of our customers run Confluence on SPARC-based hardware, Atlassian only officially supports Confluence running on x86 hardware and 64-bit derivatives of x86 hardware.

**Supported operating systems:**

- Windows (including 64-bit)
- Linux
- Mac OS X
- Solaris
- Unix

Confluence **should** work on any system that has Java 5 support. If you can get Confluence running on an unsupported operating system we will still try to help you if you encounter problems, but we may ask you to move to a supported operating system before we can provide more detailed support.

**Database**

The Confluence installation includes a pre-configured HSQLDB database for **evaluation purposes only**. For safe production use, you need to configure Confluence to use an external database listed below.

**Supported Databases**

Confluence supports the following database systems, provided they are running on a Windows, Unix (NetBSD, FreeBSD, OpenBSD, Solaris, Linux), Mac OS X on X86 or X86-64 processors.

<table>
<thead>
<tr>
<th>Database</th>
<th>Supported in Confluence 3.0 (JUN/2009)</th>
<th>Works with Confluence 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>PostgreSQL</td>
<td>8.1, 8.2</td>
<td>8.0, 8.3</td>
</tr>
<tr>
<td>Oracle</td>
<td>10.1, 10.2</td>
<td>11</td>
</tr>
<tr>
<td>MySQL</td>
<td>5.0.28 and above</td>
<td>5.0 - 5.0.27</td>
</tr>
<tr>
<td>DB2</td>
<td>8.2, 9.7</td>
<td></td>
</tr>
</tbody>
</table>
Column labelled 'Works with' as opposed to 'Supported in': We assume that Confluence works fine with these database versions. But please be aware that we don't test these versions regularly and that we may ask you to upgrade to a supported platform before we can provide more detailed support.

If your database does not appear on this list, please read the questions and answers about supported platforms.

If you have no preference, we recommend using PostgreSQL — it is scalable, free, and easy to set up. For database setup information, see Database Configuration and Database Setup For Any External Database.

Refer to the list of known issues for these databases.

Unsupported Databases

For Confluence 2.10 and later, MySQL 4.1.x is not supported — please upgrade to MySQL 5.

The decision to deprecate this database was announced previously.

There is a workaround to enable MySQL 4.1.x.

Application Server

Supported and Compatible J2EE Application Servers

Confluence supports the following application servers, provided they are running on a Windows, Unix (NetBSD, FreeBSD, OpenBSD, Solaris, Linux), Mac OS X on x86 or x86-64 processors.

<table>
<thead>
<tr>
<th>Application Server</th>
<th>Supported in Confluence 3.0 (JUN/2009)</th>
<th>Works with Confluence 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache Tomcat</td>
<td>5.5.20+, 6.0</td>
<td>5.5</td>
</tr>
<tr>
<td>BEA Weblogic</td>
<td>9.2</td>
<td>9.1, 10</td>
</tr>
<tr>
<td>IBM Websphere Application Server</td>
<td>6.1</td>
<td></td>
</tr>
<tr>
<td>Cauchio Resin Application Server</td>
<td>3.0, 3.1.6, 3.1.7</td>
<td></td>
</tr>
<tr>
<td>JBoss</td>
<td>4.2</td>
<td></td>
</tr>
</tbody>
</table>

Column labelled 'Works with' as opposed to 'Supported in': We assume that Confluence works fine with these application server versions. Please be aware, however, that we do not test these versions regularly. Hence, we may request that you migrate to a supported version first before we can provide more detailed support.

Please see configuration guides for supported application servers.

If you have no preference, we recommend using Confluence Standalone which includes Apache Tomcat.

Unsupported J2EE Application Servers

From Confluence 2.10 and later, the following application servers are no longer supported:

- Tomcat 5.0 — please migrate to Tomcat 5.5 or 6
- Resin 2 — please migrate to Resin 3.0 or 3.1
- JBoss 4.0.x — please migrate to JBoss 4.x.

Currently, we do not officially support JBoss 5.x. However, a request has been created (CONF-16432) for official support of this application server.

The decision to deprecate these platforms was announced previously.

Potentially Compatible Application Servers

The following application servers may work with Confluence. Whilst they are not known to possess any problems or incompatibilities with Confluence, they have not been sufficiently tested to be considered a compatible Application Server. Consequently, they are not supported.

J2EE Application Servers:

- Macromedia JRun

Non J2EE Application Servers:

- Microsoft IIS Server

Refer to the Supported Platforms FAQ.
**Known Incompatible J2EE Application Servers**

⚠️ The following application servers may (in part) work with Confluence. However, they are known to possess problems or incompatibilities with Confluence and consequently are not supported.

- Oracle OC4J / Oracle Application Server — see reported issue
- Sun Application Server — see reported issue
- GlassFish — see reported issue
- SAP-J2EE — see reported issue

**Antivirus Software Configuration**

Antivirus software greatly decreases the performance of Confluence. Antivirus software that intercepts access to the hard disk is particularly detrimental, and may even cause errors in Confluence.

You should configure your antivirus software to ignore the following directories:

- Confluence home directory
- Confluence's index directory
- All database-related directories

⚠️ The above recommendation is particularly important if you are running Confluence on Windows. No matter how fast your CPUs are and how many cores they have, antivirus software will always seriously slow down your Confluence performance — sometimes to a point where Confluence is impossible to use.

**Server Load**

Server load depends primarily on the number of users online at once and their usage of Confluence.

**Under 25 concurrent users:**

- 2GHz+ CPU or equivalent
- 512MB RAM

**Over 25 concurrent users:**

- Dual 2GHz+ CPU Xeon or equivalent
- 512MB+ RAM

**Over 100 concurrent users:**

- Quad 2GHz+ CPU Xeon or equivalent
- 4GB of RAM

See [Server Hardware Requirements Guide](#) for details.

Refer also to the tips on reducing out of memory errors, in particular the section on Permanent Generation Size.

**Disk Space**

**Confluence Install Directory** - 250MB

- Install files
- Nightly site backups
- Temporary files

**Confluence Home Directory or External Database** - 250MB minimum

- Text content
- File attachments

**Java**

Confluence requires a supported version of the JDK (Java Development Kit) to be installed. Confluence supports the following Java versions:

- Java 5 (JDK 1.5)
- Java 6 (JDK 1.6)

⚠️ JDK 1.4 is not supported in Confluence version 2.9 or later. Please see [Java 1.4 Support Timeline](#) for more information.

Refer to the instructions on installing Java for Confluence.

**RELATED TOPICS**

- Confluence Installation Guide
- Confluence Setup Guide
Uninstalling Confluence Standalone

If you installed Confluence Standalone using the Confluence Installer (Confluence 2.8 or later), you can uninstall Confluence using the uninstaller.

- On Windows, click ‘Start’...> ‘Programs’...> ‘Atlassian Confluence Uninstaller’.
- On the Mac, click ‘Applications’...> ‘Atlassian Confluence Uninstaller’.

Home Directory will survive

The Confluence Uninstaller will not clear your Home directory. This means that your Confluence database will be safe, even if you are using the embedded HSQLDB database. The uninstaller will clear the Installation only.

Using the IBM 64bit J9 JDK

This JVM must be started with the argument: -Dsun.reflect.inflationThreshold=0

Otherwise you will see an error message like:

```
bucket.core.InfrastructureException: java.lang.NoClassDefFoundError: com.atlassian.confluence.spaces.Space$$EnhancerByCGLIB$$58d74b80
  at com.atlassian.confluence.util.XWorkTransactionInterceptor.intercept(XWorkTransactionInterceptor.java:151)
  caused by: java.lang.NoClassDefFoundError: com.atlassian.confluence.spaces.Space$$EnhancerByCGLIB$$58d74b80
  at sun.reflect.GeneratedMethodAccessor311.invoke(Unknown Source)
```

Running Confluence in a Virtualised Environment

This page provides some performance data and observations on running Confluence with VMware. The information on this page is intended to help you decide whether or not to run Confluence using a VMware product. It does not contain detailed instructions on how to set this up (please refer to the appropriate VMware product documentation instead).

On this page:

- Summary
- Recommendations
  - General
  - VMware ESX 3.5
  - VMware ESX 4i
- Performance Testing Setup
  - Server Configuration
  - Installed Software
  - Testing Tool
- Test Results
  - Result Descriptions
  - Low-to-Medium-load Confluence
  - Medium-to-High-load Confluence

Summary

Confluence is generally slower in a virtualised environment. As can be seen in the test results below, the amount by which Confluence slows down varies based on the workload.

Under low load there are several operations which are in fact faster under VMware. This is probably due to the 4CPU VM instance running on 8 real CPUs as opposed to there being only 4 real CPUs on the baseline machine.

Please note, no performance tuning was applied to VMware for these tests. It may be possible to improve Confluence’s performance by tuning VMware. However, this may cause other applications to run more slowly on the virtual environment. We recommend that you consult...
the VMware documentation before deciding whether to do this.

Recommendations

General

- If you are running a medium-to-high-load instance, your biggest performance gain will be to run the application and database on a real machine and not on virtual infrastructure.
- Under medium-to-high-load, moving the database onto another machine will help.
- Always ensure that there are enough virtual CPUs and memory allocated to the virtual instance. This may not be possible under VMware ESX 3.5 due to limitations of 4 vCPUs per VM.
- Always ensure that there is enough CPU time and memory available on the physical host to service all VMs. Applications should not go into swap.
- Use modern CPUs with VT extensions — there is still a noticeable performance penalty for using a VM with these CPUs, but it will likely be much higher when using old CPUs.
- Carefully monitor your VMware hosts to ensure that there is no resource starvation.

VMware ESX 3.5

- If possible, upgrade to VMware ESX 4i.
- Under low-to-medium-load, using a non-virtualised database will generally result in better response times.

VMware ESX 4i

- Under low-to-medium-load, keep the database inside the virtual machine if there is enough CPU time for both the database and application.
- Using VMware ESX 4i and virtual machine version 7, you will be able to allocate up to 8 vCPUs to an instance.

Performance Testing Setup

Server Configuration

All testing was performed on the following hardware. In the case of virtual machines, one VM per machine was configured.

<table>
<thead>
<tr>
<th>Platform</th>
<th>CPU</th>
<th>Real Ram</th>
<th>Disk</th>
<th>Virtualisation Software</th>
<th>Virtual machine version</th>
<th>Virtual CPU's</th>
<th>Virtual Ram</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dell R610</td>
<td>2 x Intel 'Nehalem' Xeon E5520 (Quad Core)</td>
<td>32Gb (8x 4Gb DDR3)</td>
<td>2 x 15K 146Gb SAS, Raid 1</td>
<td>VMware ESX 3.5</td>
<td>4</td>
<td>32Gb</td>
<td></td>
</tr>
<tr>
<td>Dell R610</td>
<td>2 x Intel 'Nehalem' Xeon E5520 (Quad Core)</td>
<td>32Gb (8x 4Gb DDR3)</td>
<td>2 x 15K 146Gb SAS, Raid 1</td>
<td>VMware ESXi 4</td>
<td>7</td>
<td>32Gb</td>
<td></td>
</tr>
<tr>
<td>Dell R610</td>
<td>2 x Intel 'Nehalem' Xeon E5520 (Quad Core)</td>
<td>32Gb (8x 4Gb DDR3)</td>
<td>2 x 15K 146Gb SAS, Raid 1</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. VT extensions were enabled in the BIOS on the machines running VMWare.
2. VT extensions were disabled in the BIOS on the machines not running VMWare, as per Dell best practices.
3. In order to limit the CPUs in the baseline test to match the number in VMWare, the kernel boot parameter maxcpus=4 was added to the startup.
4. The full disk was allocated to VMware.
5. The filesystem used in all machines was EXT3.

Installed Software

Each server was set up with identical software, as follows:

<table>
<thead>
<tr>
<th>Product</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlassian Product</td>
<td>Confluence 3.0.1-rc2</td>
</tr>
<tr>
<td>Database</td>
<td>PostgreSQL 8.2.6</td>
</tr>
<tr>
<td>Application</td>
<td>Tomcat 6.0.14</td>
</tr>
<tr>
<td>Java</td>
<td>Java(TM) SE (build 1.6.0.07-b06), Java HotSpot(TM) 64-Bit Server VM (build 10.0-b23, mixed mode)</td>
</tr>
</tbody>
</table>
Operating System

Redhat Enterprise Linux 5.3 (Tikanga) 64bit (Kernel 2.6.18-128.2.1.el5). The file system used for all tests was EXT3 with the default options. The following tuning was applied to the operating system, in order to allow for more memory usage by the database server and better network throughput:

```plaintext
net.ipv4.ip_forward = 0
net.ipv4.conf.default_rp_filter = 1
net.ipv4.conf.default.accept_source_route = 0
kernel.sysrq = 0
kernel.core_uses_pid = 1
kernel.msgmnb = 65536
kernel.msgmax = 65536
kernel.shmmx = 1310720000
kernel.shmall = 4294967296
net.core.rmem_max = 16777216
net.core.wmem_max = 16777216
net.ipv4.tcp_rmem = 4096 87380 16777216
net.ipv4.tcp_wmem = 4098 65536 16777216
net.ipv4.tcp_no_metrics_save = 1
net.ipv4.tcp_moderate_rcvbuf = 1
net.core.netdev_max_backlog = 2500
```

Testing Tool

Performance tests were conducted with Apache Jakarta JMeter 2.3.4 using the standard Confluence performance tests.

Test Results

The following tests were performed for each application. In each case, the test was performed with a database local to the host instance (i.e. in the same operating system image) and also with the database residing on a separate, non-virtualised physical server of the same specifications as above.

Result Descriptions

The following descriptions relate to the result graphs below.

- **Average time Comparison** — The average response time of the requests in the scenario - the lower the better.
- **95 percent Comparison** — The time (in milliseconds) by which 95% of all requests in the scenario have completed. This is not an average value – rather, you can think of it as a 'how long the slowest requests (except the very worst 5% cases) take to complete' scenario.
- **Scenarios:**
  - **Dashboard** — Simulates visiting the Confluence dashboard.
  - **Edit Page** — Simulates saving a page back to Confluence and notifying all people who are watching this page.
  - **View Page** — Simulates loading one out of hundreds of different Confluence pages. Some are short, others are long. Some have many images, others have many comments. Some have many macros, others do not. The pages are accessed through their full URL, as if someone had clicked a link within the application or a bookmark.
  - **Search Site** — Simulates a search across the whole system.
  - **Browse User Personal Space** — Simulates regular browsing of pages in a user's personal space.
  - **Ext-DB** (In the legend of each graph) — Indicates scenarios in which the database resides on a separate, non-virtualised physical server.

Low-to-Medium-load Confluence

This test performs around 18 requests/second on the Confluence instance. This is not enough to saturate the host CPU time and during the test there is around 50-75% idle time. You could expect to see similar results if your Confluence instance has enough resources available to it.
Medium-to-High-load Confluence

This test tries to perform double the requests/second of the lower load test (i.e., approximately 36 requests/second) on the Confluence instance. This is enough load to saturate the available CPU time on a 4 CPU machine. This test is designed to simulate an instance which does not have enough resources to serve the number of requests being made to it.
Confluence Release Cycle

New versions of Confluence are released frequently. Our goals are to:

- Make bug-fixes available to customers sooner
- Give interested customers early access to new features and API changes
- Make Confluence major releases predictable

Feature Releases

We aim to release new versions of Confluence every three to four months. These releases will contain the bulk of new functionality.

Feature releases are numbered by incrementing Confluence's minor version number, so the move from Confluence 2.0 to 2.1 and 2.1 to 2.2 both introduced significant new features to the product. Occasionally we may change to a whole new major version number (Confluence 2.0 was originally slated to be released as 1.5), but that is mostly done for marketing purposes, and shouldn't be considered to have any practical meaning.

Feature releases may not be API-compatible with the previous release. This means that you should test RPC clients, macros and plugins before running them on a newer version of Confluence.

You can find the time line history of our major releases at the downloads archive.

Bug-Fix Releases

Confluence bug-fix releases are scheduled every three to four weeks, depending on the number and urgency of the bugs that have been fixed during that particular development cycle. We aim to minimise the time between a bug being reported and a fix being available, without either us or our customers having to manage clumsy sets of manual patches.

Bug-fix releases will contain mostly bug-fixes, plus the occasional minor new feature or enhancement. Enhancements will be limited, however, as the main aim of these point releases is to improve stability, and make no significant API changes.

Bug-fix releases are numbered by incrementing the patch-level. So the first bug-fix release after Confluence 2.2 is 2.2.1, followed by 2.2.2. Occasionally, we will re-issue a bug-fix release because something was faulty with the original download. In that case we will create a "re-issue" release number, for example 2.1.5a or 2.2.1a.

Obviously, we don't expect anyone to upgrade Confluence every two weeks, administrators should keep their own schedule, based on how much of an inconvenience is being caused by any bugs that may have been fixed since. Sometimes, however, a security issue or serious application bug will arise that we feel it is in everyone's best interests to fix as soon as possible. In such cases, we will recommend in the Release Notes that all customers upgrade to the latest version.

Milestone Releases

Occasionally, when possible, we will release preview "milestone releases" of the next major Confluence version. How often and when we do so depends on the particulars of the current development cycle. In situations where we are working on a number of disparate features we may be able to do a number of progressive development releases, whereas in iterations where we are making significant changes to the Confluence internals, we may not have anything suitable for public consumption until quite late in the release cycle.

Milestone releases will be announced on the Development Releases page, and to the confluence-developer mailing list. Milestone releases are published for testing plugins and early feedback about our work, please don't use them on production systems.

The version number of a Milestone Release will be the version number of the next major release, suffixed with -m. So Confluence 2.3-m1 will be followed by 2.3-m2, and so on until the ultimate release of the finished Confluence 2.3.
Coherence license changes SEPT 2009 - new Standard and Clustered Confluence Editions

Summary

Oracle Coherence (formerly known as Tangosol Coherence) is the technology that provides clustering and distributed caching in Confluence. It has also been used for caching purposes in non-clustered Confluence deployments.

The Oracle Coherence technology was first incorporated into Confluence version 2.3. Since then, Atlassian has been able to distribute the Coherence technology library files via the following means:

- Included with all versions and distributions of Confluence downloadable from our web site since version 2.3, regardless of whether these were intended for clustered or single-server installations.
- From the Atlassian Maven repositories.

However, Atlassian is about to enter a new license agreement with Oracle over the Coherence technology. This means that from late September 2009, Atlassian will only be permitted to distribute the Coherence library files to customers who have purchased a license for it (that is, a Confluence clustered license).

As a result, the following changes will occur:

- The next version of Confluence (3.0.1) will be released in two editions:
  - Standard — Editions of Confluence without the Coherence library files. Ehcache will replace the local caching functionality previously provided by the Coherence technology.
  - Clustered — Editions of Confluence containing the Coherence library files.
- Customers who have purchased a non-clustered Confluence license will only be able to download standard editions of Confluence from the Atlassian web site, whereas customers who have purchased a Confluence clustered license will be able to download clustered editions of Confluence.
- From late September 2009:
  - Standard editions of Confluence will be made available for each previous major releases of Confluence back to version 2.6. These will be available as Confluence versions 2.10.4, 2.9.3, 2.8.3, 2.7.4 and 2.6.3 and will be available to customers with non-clustered licenses.
  - All other previous versions of Confluence currently available from our download page (from 2.6 to 3.0 inclusively), will be re-released as clustered editions and will only be available to customers with Confluence clustered licenses.
  - The Coherence library files will no longer be available in any form from the Atlassian Maven repositories.
  - The installation files for all versions of Confluence prior to 2.6 (which are no longer supported) will be removed from the Atlassian web site and will no longer be available for download and installation.

What are the implications?

I am a Confluence customer with a non-clustered Confluence license, running Confluence 2.3 or later.

The Confluence distribution you are running will continue to function and if it is Confluence version 2.6 or later, be supported by Atlassian in accordance with our standard support policy.

However, if you upgrade to Confluence version 3.0.1 or later or obtain any Confluence version released after late September 2009, you will only be able to download and upgrade to standard editions of Confluence.

I run a customised installation of Confluence 2.3 or later and must build Confluence from source.

Confluence source code downloaded before late September 2009 requires that the Coherence library files are present in either your local or the Atlassian Maven repositories for automated Maven builds to complete successfully.

If you have Confluence source code downloaded before late September 2009 (excluding version 3.0.1) but conduct an automated Maven build of Confluence using this source code after this date, your build will fail if the Coherence library files are not available in your local Maven repository. This is because the Coherence library files will also not be available in the Atlassian Maven repository.

Hence, to build a customised installation of Confluence using this source code, we recommend that you locate the tangosol-3.3.jar and coherence-3.3.jar from the WEB-INF/lib directory of your own existing Confluence installation and install them into your local Maven repository using the following commands:

```sh
mvn install:install-file -Dfile=tangosol-3.3.jar -DgroupId=tangosol-coherence -DartifactId=tangosol -version=3.3 -packaging=jar
mvn install:install-file -Dfile=coherence-3.3.jar -DgroupId=tangosol-coherence -DartifactId=coherence -version=3.3 -packaging=jar
```
These commands will install the Coherence library files into your local Maven repository, which should be available to you only. Please do not upload these files to any public Maven repository nor make them publicly available by any other means. Atlassian's End User License Agreement does not grant permission to redistribute any part of Confluence, which includes these Coherence library files.

Alternatively, you can download the sources for one of the new standard or clustered editions of Confluence and reapply your customisations. These will compile without any additional problems.

**I am a plugin developer and wish to compile plugins against old or existing versions of Confluence**

This will affect plugin developers in two ways:

1. When building a plugin, Maven will complain about the absence of the Coherence library files in the Atlassian Maven repository.
2. When using the Atlassian Plugin Toolkit to test a plugin, Maven will be unable to download the appropriate Confluence EAR-WAR distribution file (from the Atlassian Maven repository), against which to perform integration tests.

Therefore, we recommend that as soon as possible, plugin developers start compiling their plugins based on the new standard editions of Confluence (without the Coherence library files). Standard editions of Confluence will be binary-compatible with clustered editions and existing clustered instances of Confluence. Hence, plugins developed against standard editions of Confluence will also run on any clustered editions and existing clustered instances of Confluence.

**I am a plugin developer concerned about API changes and multiple Confluence editions resulting from these changes**

As long as you are using only Confluence APIs to develop plugins, your plugins will be binary compatible with both standard and clustered editions of Confluence. The interfaces of the Confluence CacheManager, Cache and ClusterManager will be the same in both editions of Confluence, although there will be only one important change from previous versions of Confluence.

In existing versions of Confluence, the ClusterManager exposes the Coherence InvocationService to allow clients to execute code or perform queries across all nodes of the cluster. This API will be unavailable in all standard edition versions of Confluence from version 3.0.1 back to 2.6. If your plugin uses this service (and Atlassian is not aware of any that do) you should instead use Confluence's RemoteEvent API to send messages to other cluster nodes and direct them to perform the work.

Also, if for some reason your plugin references some other Coherence classes directly (or imports the Coherence-specific implementations of the CacheManager, Cache or ClusterManager), you will need to rewrite your plugin to use the generic interfaces only.

**I am a plugin developer and want to test my plugin against Confluence in a cluster**

For testing purposes, you must own a Confluence clustered license and have access to a clustered Confluence installation (either an existing one or one based on the new Confluence clustered edition).

### Development Releases

Development Releases are interim builds of Confluence that we make available so that interested customers can try out new features, especially those features that you may have been waiting for, and don't want to wait another month for the next official release.

**Please note the following**

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- **No upgrade path** — Because development releases represent work in progress, we can not provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

### Current Development Release Cycle

The links below show the improvements made every two weeks only, and will mainly be relevant to plugin developers.

- Release Notes 3.1-m7 ("Milestone 7") 5/NOV/2009
- Release Notes 3.1-m6 ("Milestone 6") 28/OCT/2009
- Release Notes 3.1-m5 ("Milestone 5") 8/OCT/2009
- Release Notes 3.1-m4 ("Milestone 4") 22/SEPT/2009
- Release Notes 3.1-m3 ("Milestone 3") 10/SEPT/2009
- Release Notes 3.1-m1 ("Milestone 1") 22/JULY/2009

Other Resources for 3.1:
Previous Development Release Cycles

3.0 Development
- Release Notes 3.0-m9 ("Milestone 9") 28/APRIL/2009
- Release Notes 3.0-m8 ("Milestone 8") 20/APRIL/2009
- Release Notes 3.0-m7 ("Milestone 7") 31/MARCH/2009
- Release Notes 3.0-m6 ("Milestone 6") 16/MARCH/2009
- Release Notes 3.0-m5 ("Milestone 5") 24/FEBRUARY/2009
- Release Notes 3.0-m3 ("Milestone 3") 29/JANUARY/2009

2.10 Development
- Release Notes 2.10-rc1 ("Release Candidate 1") 23/NOV/2008
- Release Notes 2.10-m8 ("Milestone 8") 13/NOV/2008
- Release Notes 2.10-m7 ("Milestone 7") 12/NOV/2008
- Release Notes 2.10-m5 ("Milestone 5") 23/OCT/2008
- Release Notes 2.10-m4 ("Milestone 4") 2/OCT/2008
- Release Notes 2.10-m3 ("Milestone 3") 18/SEPT/2008
- Release Notes 2.10-m2 ("Milestone 2") 08/SEPT/2008
- Release Notes 2.10-m1 ("Milestone 1") 22/AUGUST/2008

2.9 Development
- Release Notes 2.9-rc1 ("Release Candidate 1") 31/JULY/2008
- Release Notes 2.9-m5 ("Milestone 5") 9/JULY/2008
- Release Notes 2.9-m3 ("Milestone 3") 11/JUNE/2008
- Release Notes 2.9-m2 ("Milestone 2") 27/MAY/2008

2.8 Development
- Release Notes 2.8-m9 ("Milestone 9") 26/MAR/2008
- Release Notes 2.8-m7 ("Milestone 7") 11/MAR/2008
- Release Notes 2.8-m6 ("Milestone 6") 05/MAR/2008
- Release Notes 2.8-m4 ("Milestone 4") 08/FEB/2008
- Release Notes 2.8-m3 ("Milestone 3") 30/JAN/2008
- Release Notes 2.8-m2 ("Milestone 2") 16/JAN/2008

2.7 Development
- Release Notes 2.7-rc1 ("Release Candidate 1") 05/DEC/2007
- Release Notes 2.7-m5 ("Milestone 5") 26/NOV/2007
- Release Notes 2.7-m4 ("Milestone 4") 06/NOV/2007
- Release Notes 2.7-m2 ("Milestone 2") 10/OCT/2007

2.6 Development
- Release Notes 2.6-dr1
- Release Notes 2.6-dr2

2.3 Development
- Release Notes 2.3-DR1
- Release Notes 2.3-DR2

1.5 - 2.0 Development
- 1.5-DR1 was not released
- Release Notes 1.5-DR2
- Release Notes 2.0-RC1
- Release Notes 2.0-RC2

1.4 Development
- Release Notes 1.4-DR1
- Release Notes 1.4-DR2
- Release Notes 1.4-DR3
- Release Notes 1.4-DR4
- 1.4-DR5 was not released
- Release Notes 1.4-DR6
- Release Notes 1.4-DR7
- 1.4-RC1 was not released
- Release Notes 1.4-RC2

1.3 Development
Confluence 3.1 Newly Deprecated Code

This page should show all the code that was deprecated (not deleted!) during the Confluence 3.1 release cycle.

This is work in progress, and may not be a complete summary. As always, the truth is in the code. This page is more for explaining and discussing our decisions.

Development Release Warnings

⚠️ Please note the following

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- **No upgrade path** — Because development releases represent work in progress, we **cannot** provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Milestone release advisory

⚠️ This page is to be included into all our Milestone release notes for the Confluence 3.1 release cycle

 setBackgroundImage

⚠️ Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the latest official release. This release is a public development release ("Milestone") leading up to Confluence 3.1, which will be probably shipped in Q4/2009. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we’re up to.

Who should upgrade?

⚠️ Please note the following

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- **No upgrade path** — Because development releases represent work in progress, we **cannot** provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code.

Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too, and all of our milestone releases even have been performance-tested for a while.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come...
implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Additionally, our performance-testing and compatibility testing for databases and application servers is not done to the full extent. So, for example, a milestone release might behave well on a small installation but show severe problems when subjected to many users.

**Upgrade Procedure**

Follow the normal upgrade instructions to upgrade from Confluence 3.0.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

**Downloads**

All development releases are available from Development Releases on the Atlassian website.

**Release Notes 1.3-DR1**

Confluence 1.3-DR1 is the first development release in the cycle leading up to Confluence 1.3. In it, we have rewritten the Space Summary/Space Administration pages to be more usable, and implemented a much-requested feature: the ability to undelete pages.

**Who should upgrade?**

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.2 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.1.2 or earlier, be sure to read the upgrade instructions in the Confluence 1.2 release notes.

**New Features in Confluence 1.3-DR1**

**Space Summary**

The Space Summary page has been the dumping-ground for every space-related operation and report since Confluence's early alpha releases. As such, it had become confusing to navigate and hard to find anything on.

For 1.3-DR1, we have rewritten the space summary to be a suite of tabbed pages, making that whole area of Confluence easier to navigate, more self-explanatory, and much better-looking.

**The Trash Can**

When a page or blog post is deleted, it is no longer removed completely, but is placed in a space-wide trash can.

The trash can be found in the Administration tab of the newly rearranged Space Summary pages. Space Administrators can choose to restore pages from the trash, or purge them so they are unrecoverable.

**New Emoticons**

Just because.

<table>
<thead>
<tr>
<th>Emoticon</th>
<th>Name</th>
<th>Syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td>![+]</td>
<td>add</td>
<td>(+)</td>
</tr>
<tr>
<td>![−]</td>
<td>forbidden</td>
<td>(−)</td>
</tr>
<tr>
<td>![?]</td>
<td>help</td>
<td>(?)</td>
</tr>
<tr>
<td>![on]</td>
<td>idea on</td>
<td>(on)</td>
</tr>
<tr>
<td>![off]</td>
<td>idea off</td>
<td>(off)</td>
</tr>
<tr>
<td>![*]</td>
<td>star</td>
<td>(*)</td>
</tr>
<tr>
<td>![r]</td>
<td>red star</td>
<td>(*r)</td>
</tr>
<tr>
<td>![g]</td>
<td>green star</td>
<td>(*g)</td>
</tr>
<tr>
<td>![b]</td>
<td>blue star</td>
<td>(*b)</td>
</tr>
<tr>
<td>![y]</td>
<td>yellow star</td>
<td>(*y)</td>
</tr>
</tbody>
</table>
Bug Fixes

All the bug-fixes that were part of the Confluence 1.2.2 release have also been incorporated into 1.3-DR1. In addition, we've fixed one or two issues specifically for 1.3-DR1, take a look in JIRA for the full list.

Release Notes 1.3-DR2

Confluence 1.3-DR2 is the second development release in the cycle leading up to Confluence 1.3. For DR2, we have made space-level permissions a lot more fine-grained, and added a new plugin manager which should open the way to making it easier for people to write extensions to Confluence:

Who should upgrade?

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.2 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.1.2 or earlier, be sure to read the upgrade instructions in the Confluence 1.2 release notes.

Note: Because we have made significant changes to permissions in 1.3-DR2, you should check that your user permissions have been correctly migrated. The upgrade manager should ensure permissions remain consistent between versions, but as with anything related to security, it's best to double-check.

New Features in Confluence 1.3-DR2

New Space-Level Permissions

(CONF-1375, CONF-1764 and their linked issues)

New Plugin Architecture

(CONF-1877)

Confluence now incorporates the plugin architecture that was written for JIRA 3.0 (which in turn was adapted from Confluence's macro management. Who said code reuse was dead?). Right now, there's not much you can do with it, but plugins pave the way to making Confluence a great deal more flexible and extensible.
See: Writing Confluence Plugins

**New Macro Descriptor Format**

(CONF-1878)

Macro libraries are now implemented as plugins, which means that if you have written a macro library, you will need to convert your `macro-library.xml` files to `atlassian-plugin.xml` files.

**Themes**

(CONF-1856)

It is now possible to package a colour-scheme and a set of customised decorators into a portable Confluence plugin. Just drop the theme jar into your server's classpath, restart the server and space administrators will be able to select the theme from the space administration console.

---

**DR-2 comes with two very simple themes** (look under themes/ in your Confluence directory), but we will have more (and more useful) themes available by the time 1.3.0 is released. In addition, we're hoping that users will continue to share their Confluence modifications in the Confluence Extensions Space, and that themes will help you continue to share neat things you've done with Confluence.

**Bugs fixed for 1.3-DR2**

All the bug-fixes that were part of the Confluence 1.2.3 release have also been incorporated into 1.3-DR2. In addition, we've fixed a handful of issues specifically for 1.3-DR2, take a look in JIRA for the full list.

**Release Notes 1.3-DR3**

Confluence 1.3-DR3 is the third development release in the cycle leading up to Confluence 1.3 - and a momentous day in the history of Confluence.

We've finally made it to that special point in every applications life.

Confluence has evolved.

1.3-DR3 is best summed up by Jamie Zawinski's *Law of Software Envelopment*:

> Every program attempts to expand until it can read mail. Those programs which cannot so expand are replaced by ones which can.

That's right - Confluence now has more content than ever before. It reads, stores and indexes email. Oh, and as a nifty little bonus - it also indexes Word documents, PDF documents, RTF documents, Excel spreadsheets, PowerPoint files, text files, source files etc... attached to your mail!

Have we got your interest? How does all this magic happen you ask? Read on to pull back the curtain.

**Who should upgrade?**

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.2 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!
If you are upgrading from Confluence 1.1.2 or earlier, be sure to read the upgrade instructions in the Confluence 1.2 release notes.

**Note:** Because we have made significant changes to permissions in 1.3-DR2, you should check that your user permissions have been correctly migrated. The upgrade manager should ensure permissions remain consistent between versions, but as with anything related to security, it's best to double-check.

### New Features in Confluence 1.3-DR2

**Mail Archiving**

(CONF-1965)

Confluence is a collaboration tool. When communication happens through email instead of through Confluence, information will get lost in the depths of someone's mail folders, instead of shared with the team, archived, interlinked and indexed.

While we would love to see all collaboration within a group to happen through Confluence, it's often not possible to change the way people work. So instead of finding new ways to force people to use Confluence instead of email, why not route all the relevant email into Confluence?

It is now possible to archive email within a Confluence space. The support for mail is only just getting started in DR3, but we believe this is an incredibly useful direction for Confluence to go, and will be expanding and improving the mail integration in future releases.

Confluence spaces can retrieve mail periodically from a POP mailbox (this will delete all mail from that POP account, so don't try it on an account you want to keep mail on), or space administrators can import mail directly from a standard mbox-format mail file.

Once mail is imported into Confluence, it can be browsed chronologically from the Content pane of the Space Summary page, and can be searched through Confluence's search interface.

In the future, we will be adding new ways to link to and between email (bringing the email closer to the other content of the wiki), proper representation of email threads, more flexible search, and much, much more.

Read the Mail Archiving FAQ for more information

### Want to play with it now?

We love to play with features right now, so here's how you can:

- Testing mail search is a snap. We're indexing our own mailing list on this very space! [View archives](#) or search mail.
- Testing mailing content into Confluence is also easy - well, relatively. Simply mail [mailtest@atlassian.com](mailto:mailtest@atlassian.com) and your email will show up here (it only polls the box once an hour, but it will show up eventually!). It will also be indexed.

### Improved Indexing Performance

We now make much more efficient use of resources by batching updates to full-text search index. This should lead to improved performance for many tasks within Confluence, but will mean that it may take up to a minute for a change in the site to be reflected in the site's index. (CONF-2029)

In addition, we have made a number of improvements to the indexing of large PDFs, including fixing some cases where a PDF might cause indexing to freeze indefinitely. (CONF-1953, CONF=1954)

### Library Upgrades

Many of the libraries Confluence is dependent on have been upgraded for this release, which should result in improved stability and performance.

### Bugs fixed for 1.3-DR3

We've fixed a handful of issues specifically for 1.3-DR3, take a look in [JIRA](#) for the full list.
Release Notes 1.3-DR4

Confluence 1.3-DR4 is the fourth development release in the cycle leading up to Confluence 1.3. We're on the home stretch! The final, stable 1.3 isn't far away.

Confluence 1.3-DR4 includes a raft of improvements to mail archiving, a redesigned setup wizard, significant improvements to the way we back up and restore your system configuration, and a truck-load of bug fixes.

Who should upgrade?

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.2 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.1.2 or earlier, be sure to read the upgrade instructions in the Confluence 1.2 release notes.

Note: You will need to rebuild the search index after you upgrade for certain features (including mail threading) to work properly.

New Features in Confluence 1.3-DR4

Setup Improvements

Confluence's setup wizard was badly in need of an overhaul, so that's exactly what we've done. Among the improvements, we have:

- Improved the ordering of steps. For example, if you are importing straight from a backup, you no longer need a redundant administrative user.
- Added a quick, two-step setup process to get Confluence running straight away
- Made the database setup much more robust, and much better at reporting errors
- Removed those steps that weren't really necessary to get Confluence running

Hopefully this will make it a lot easier to get Confluence up and running, or show off Confluence to your friends and family.

Mail Archive Improvements

We've been working hard to build on the basic mail-archiving features included in 1.3-DR3. Included in the new version are:

- Improved indexing of mail senders, message-ids and subjects
- Improved integration of mail with search
- The ability to delete mail (if you have been assigned the delete mail permission)
- Direct access to mail archives from the dashboard
- Display of mail attachments in the "view mail" page
- The ability to link to a single message by its internal Confluence ID ([$1234] will link to message 1234)
- The ability to navigate forward and back through mails chronologically
- Email addresses are displayed or masked in accordance with your global preferences

We still have a few things to do (date based views, a calendar), but the mail archive is now very useable. Especially when you take into account...

Mail Threading

Of course, it's important for your mail archive to be able to represent conversation threads. How you present threads, though, is just as important.

Here's how most mail-based web archives present your thread at the bottom of each message:

- Follow-Ups:
  - RE: PaceDateModified
    - From: Bob Wyman
- References:
  - RE: PaceDateModified
    - From: Tim Bray

Not very helpful, is it. Here's how that same bottom-of-the-message view looks in Confluence:
At a glance, you can see exactly where the message sits in a conversation.

Backup Improvements

(CONF-1090 and CONF-2046)

Confluence 1.3-DR4 contains two significant improvements to backing up and restoring the system.

- You can now exclude attached files from your backups. Of course, this means you have to back up your attachment directory separately, but if you already have a good backup regime for your filesystem (and can thus restore the attached files separately), it means that your Confluence data backups will take up far less room.
- We now include important parts system configuration in your backups. This means that colour-schemes and plugin preferences are now saved, and fixes a large number of issues that users have filed due to the restore process not bringing the system back up in the same state as when they saved it.

Library Upgrades

We have continued the process of upgrading to the most recent stable versions of those libraries Confluence is built on, which should result in improved stability and performance.

Bugs fixed for 1.3-DR4

We've also fixed a lot of bugs, as we ramp up for the stable 1.3 release. Take a look in JIRA for the full list.

Release Notes 1.3-final

Confluence 1.3-final is the stable release of Confluence 1.3. Woohoo! We made it! The full release-notes for Confluence 1.3 are located here, this page documents only the changes made since the 1.3-DR4 development release.

1.3-final contains over 100 improvements over 1.3-DR4, mostly focused around fixing bugs, polishing the interface, and making Confluence ready for a stable release.

Who should upgrade?

Confluence 1.3 is the new stable release of Confluence. It contains a huge raft of enhancements and fixes made since 1.2.3. If you are running Confluence (and not using Oracle, see below), you should upgrade to Confluence 1.3. If you are not running Confluence, you should install 1.3 immediately, regardless of your database.

Current users of Confluence on Oracle databases users may wish to delay upgrading.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.2 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.1.2 or earlier, be sure to read the upgrade instructions in the Confluence 1.2 release notes.

Note: You will need to rebuild the search index after you upgrade for certain features (including mail threading) to work properly.

New Features in Confluence 1.3-final
New Demonstration Content

As part of the DR4 setup improvements, users were given the option to install an example space, but the demonstration content that was loaded was pretty uninspiring. For the final release, the demonstration space now contains a suite of demonstration pages, examples of what Confluence can do, and a few pictures of the Sydney Opera House. This should make it much easier to get Confluence up and running quickly.

Referrer Performance Improvement

We discovered (from monitoring the http://confluence.atlassian.com site) that our recording of HTTP referrers was causing some serious performance problems for public Confluence sites. Upgrading to Confluence 1.3-final should make Confluence a lot more responsive, especially under heavy load.

Improved Notation Guide

The notation guide has been reorganised to be more user-focused, making it easier to find the markup or macro you are looking for.

It is also now possible for macro plugins to insert themselves into the notation guide. Just write your macro description as a two-column HTML table row, put it in a vm file, and include the following in your atlassian-plugin.xml file:

```xml
<resource type="velocity" name="help* location="/path/to/your/helpfile.vm">
  <param name="help-section" value="tables"/>
</resource>
```

The help section can be one of: text, effects, headings, breaks, links, lists, images, tables, advanced, confluence, external or miscellaneous. If you don't include a help section, it will be put in the 'macros' section.

Improved Search Indexing

We've updated the way we index content within Confluence. A lot of searches that came up empty before will now find something. In addition, you can now set your primary language for indexing under General Configuration, so that the indexer can better optimise itself for non-English content.

Also

- By popular demand (it was our most highly voted-for bug), pages are now exported in alphabetical order, not in order of creation.
- The Remote API can be accessed anonymously, if you wish (anonymous remote access must be turned on in the general configuration).
- When previewing a page, you can continue to edit on that screen, instead of having to go back to the edit page.
- The thread view on a mail page has been improved, and the full-thread view is no longer a pop-up.
- You no longer need to be in the confluence-admin group to access the administration pages, you just need global administrative privileges.
- You can link to anything in Confluence if you know its ID in the database (currently this is how you must link to email): [$1234]
- You can link to anything relative to the root of the Confluence site (useful for pointing to parts of the site that can't otherwise be linked): [/pages/editpage.action?pageId=1234]
- New macros: {jiraportlet}, {note} {tip}, {information} and {warning}
- A lot more...

Issues Resolved for 1.3-final

In all, over 130 issues were resolved between DR4 and 1.3-final. Unfortunately, merging all the versions together in JIRA means the list of precisely what went into those 130 has been lost, but if you sort this list by last-modification date, you'll get some idea... Issues Resolved for 1.3

Release Notes 1.4-DR1

Confluence 1.4-DR1 is the first development release in the cycle leading up to Confluence 1.4. On the surface, we have implemented one of Confluence's most requested features. Under the hood, there's a whole new event system to play with.

Who should upgrade?

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.2.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.3 release notes.

Downloads

All development releases are available from Development Releases on the Atlassian website.
New Features in Confluence 1.4-DR1

Consult JIRA for the full list of issues resolved for 1.4-DR1 (Note, this list doesn't include all the 1.3.1 fixes that were also merged into the development release)

Move Page Hierarchy

When you move a page between spaces, you now have the option to include all children of that page in the move. With 13 votes, this was one of Confluence’s most requested features.

(Note, as of DR1, you can not both move a hierarchy of pages and rename the root page at the same time. This bug is filed as CONF-2452)

Attach Multiple Files

Another commonly requested feature, you can now attach multiple files to a page at once. By default, you can attach a maximum of five at a time, but this maximum is configurable.

GZip Content Encoding

Pages are served with GZip content encoding, which means less bandwidth consumption and faster page downloads.

Events and Listeners

We have implemented the beginnings of a pervasive system of events within Confluence.

By the final release of 1.4, all major actions within Confluence will trigger an event. These events can be listened for, and reacted to by a new plugin module type: "listener". This will allow Confluence to be further customised, as extensions can react to anything that happens within the system.

Creating an event listener plugin is insanely easy. Step one, implement this interface:

```java
package com.atlassian.confluence.event;
import com.atlassian.confluence.event.events.ConfluenceEvent;

/**
 * Defines a listener for Confluence events.
 */
public interface EventListener
{
    /**
     * Perform some action as a response to a Confluence event. The EventManager will
     * ensure that this is only called if the class of the event matches one of the
     * classes returned by getHandledEventClasses
     * @param event some event triggered within Confluence
     */
    void handleEvent(ConfluenceEvent event);

    /**
     * Determine which event classes this listener is interested in.
     * The EventManager performs rudimentary filtering of events by their class. If
     * you want to receive only a subset of events passing through the system, return
     * an array of the Classes you wish to listen for from this method.
     * For the sake of efficiency, only exact class matches are performed. Sub/superclassing
     * is not taken into account.
     * Returning an empty array will allow you to receive every event.
     * @return An array of the event classes that this event listener is interested in,
     *         or an empty array if the listener should receive all events. Must not
     *         return null.
     */
    Class[] getHandledEventClasses();
}
```

Step two: Package it as a plugin module with a descriptor like this:

```xml
<listener name="My Listener" key="mylistener" class="com.example.listeners.MyListener">
    <description>Listens for stuff.</description>
</listener>
```

And that's about it. We'll be adding information about the events that are being produced in Confluence over the next couple of days (We would have had them documented today, but Nick, who wrote most of them, was sick).

Bugs Fixed
All bugs that were fixed in Confluence 1.3.1 are also fixed in Confluence 1.4-DR1.

Release Notes 1.4-DR2

Confluence 1.4-DR2 is the second development release in the cycle leading up to Confluence 1.4. Seeing as the DR2 development fortnight straddled Christmas it’s not quite as feature-laden as some previous releases, but we thought we’d give you a few new toys to play with for the New Year.

Who should upgrade?

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.2.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.3 release notes.

Downloads

All development releases are available from Development Releases on the Atlassian website.

New Features in Confluence 1.4-DR2

Consult JIRA for the full list of issues resolved for 1.4-DR2

Export Page Hierarchy

When you export a page to PDF or HTML, you have the option to include its children in the export.

![Export Format](image)

Popup Page Picker

We now have a popup that can be used to select pages for inserting links, or choosing a page's parent. The picker lets you choose from your recently visited pages, the list of pages that link to the current page, or you can perform a search within the picker itself.

![Popup Page Picker](image)
Confluence 3.0 Documentation

New Macros

As part of the process of making Confluence more flexible, we have implemented the various functions of the Confluence dashboard and space summary pages as macros. These macros are currently disabled by default, but if you're interested in using them within regular pages, you can enable them from your global plugin configuration.

This currently has no effect on the dashboard itself - but will become useful in the future when the dashboard becomes customisable. For example, the {spaces-list} macro will reproduce the list of spaces that appears on the dashboard:

Spaces:  
<p>| Application Links 1.x | Documentation for AppLinks version 1.x |  |
| Application Links 2.0 | Documentation for AppLinks 2.0 |  |
| Application Links 2.1 | Documentation for the latest version of AppLinks |  |
| Atlassian Developer Network | For the community of developers modifying and extending JIRA &amp; Confluence. |  |
| Atlassian Developers | Atlassian Developers. Because they're just too good to be kept hidden in an office in Sydney. |  |
| Atlassian Documentation | Information about and links to the Atlassian product documentation, including downloadable documentation |  |
| Atlassian IDE Connectors | Documentation for the Atlassian Connectors for Eclipse and IntelliJ IDEA |  |
| Atlassian Integration Guide | The ways your Atlassian applications work together and how you can make it happen |  |
| Atlassian KnowledgeBase |  |
| Atlassian Partner Wiki |  |
| Atlassian Presentations |  |
| Atlassian Support |  |
| Atlassian Training |  |
| Atlassian t-shirt Competition |  |</p>
<table>
<thead>
<tr>
<th>Repository</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlassian User Group</td>
<td></td>
</tr>
<tr>
<td>Atlassian Webinars</td>
<td></td>
</tr>
<tr>
<td>Bamboo 1.0</td>
<td>Documentation for Bamboo 1.0</td>
</tr>
<tr>
<td>Bamboo 1.1</td>
<td>Documentation for Bamboo 1.1</td>
</tr>
<tr>
<td>Bamboo 1.2</td>
<td>Documentation for Bamboo 1.2</td>
</tr>
<tr>
<td>Bamboo 2.0</td>
<td>Documentation for Bamboo 2.0</td>
</tr>
<tr>
<td>Bamboo 2.1</td>
<td>Documentation for Bamboo 2.1</td>
</tr>
<tr>
<td>Bamboo 2.2</td>
<td>Documentation for Bamboo 2.2</td>
</tr>
<tr>
<td>Bamboo 2.3</td>
<td>Documentation for Bamboo 2.3</td>
</tr>
<tr>
<td>Bamboo 2.4</td>
<td>Documentation for Bamboo 2.4</td>
</tr>
<tr>
<td>Bamboo Extensions</td>
<td></td>
</tr>
<tr>
<td>Bamboo Knowledge Base</td>
<td>Troubleshooting and support tips for Bamboo</td>
</tr>
<tr>
<td>Clover 2.0</td>
<td>Documentation archive for Clover 2.0</td>
</tr>
<tr>
<td>Clover 2.1</td>
<td>Documentation archive for Clover 2.1</td>
</tr>
<tr>
<td>Clover 2.3</td>
<td>Documentation archive for Clover 2.3</td>
</tr>
<tr>
<td>Clover 2.4</td>
<td>Documentation archive for Clover 2.4</td>
</tr>
<tr>
<td>Clover 2.5</td>
<td>Documentation archive for Clover 2.5</td>
</tr>
<tr>
<td>Clover 2.6</td>
<td>Documentation for the latest version of Clover</td>
</tr>
<tr>
<td>Clover Knowledge Base</td>
<td>Troubleshooting and support tips for Clover</td>
</tr>
<tr>
<td>Codegeist</td>
<td>Atlassian's Codegeist! :)</td>
</tr>
<tr>
<td>Confluence 1.4 User Guide</td>
<td>User Guide for Confluence 1.4</td>
</tr>
<tr>
<td>Confluence 2.0</td>
<td>User Guide for Confluence version 2</td>
</tr>
<tr>
<td>Confluence 2.5</td>
<td>Complete documentation for Confluence versions 2.0 to 2.5.3.</td>
</tr>
<tr>
<td>Confluence 2.5.6</td>
<td>Complete documentation for Confluence versions 2.5.4 to 2.5.8.</td>
</tr>
<tr>
<td>Confluence 2.6</td>
<td>Complete documentation for Confluence version 2.6</td>
</tr>
<tr>
<td>Confluence 2.7</td>
<td>Complete documentation for Confluence version 2.7</td>
</tr>
<tr>
<td>Confluence 2.8</td>
<td>Complete documentation for Confluence version 2.8</td>
</tr>
<tr>
<td>Confluence 2.9</td>
<td></td>
</tr>
<tr>
<td>Link</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>FishEye 1.4</td>
<td>Documentation archive for FishEye 1.4.</td>
</tr>
<tr>
<td>FishEye 1.5</td>
<td>Documentation archive for FishEye 1.5</td>
</tr>
<tr>
<td>FishEye 1.6</td>
<td>Documentation archive for FishEye 1.6</td>
</tr>
<tr>
<td>FishEye 2.0</td>
<td>Latest documentation for FishEye, your view into your source code repository</td>
</tr>
<tr>
<td>FishEye and Crucible</td>
<td>Tutorials and reference for enhancing and integrating FishEye and Crucible</td>
</tr>
<tr>
<td>FishEye Knowledge</td>
<td>Troubleshooting and support tips for FishEye</td>
</tr>
<tr>
<td>Gadgets and Dashboards 1.0</td>
<td>Documentation for the latest version of Atlassian Gadgets and Dashboards</td>
</tr>
<tr>
<td>Gadgets and Dashboards 1.0 Archive</td>
<td>Documentation for version 1.0.x of Atlassian Gadgets and Dashboards</td>
</tr>
<tr>
<td>GreenHopper 3.8</td>
<td>Documentation archive for GreenHopper 3.8</td>
</tr>
<tr>
<td>GreenHopper 4.0</td>
<td>Documentation for GreenHopper 4.0</td>
</tr>
<tr>
<td>GreenHopper 4.1</td>
<td>Documentation for GreenHopper 4.1</td>
</tr>
<tr>
<td>Greenhopper Knowledge Base</td>
<td></td>
</tr>
<tr>
<td>JIRA 3.x Developer Documentation Archive</td>
<td>JIRA 3.x developer documentation archive</td>
</tr>
<tr>
<td>JIRA 4.0</td>
<td>Documentation for JIRA 4.0</td>
</tr>
<tr>
<td>JIRA Community Space</td>
<td></td>
</tr>
<tr>
<td>JIRA Extensions</td>
<td></td>
</tr>
<tr>
<td>JIRA Knowledge Base</td>
<td>Troubleshooting and support tips for Jira</td>
</tr>
<tr>
<td>JIRA Studio</td>
<td></td>
</tr>
<tr>
<td>Partner Program</td>
<td></td>
</tr>
<tr>
<td>Plugin Framework 2.0</td>
<td>Documentation for version 2.0 of the Atlassian Plugin Framework.</td>
</tr>
<tr>
<td>Plugin Framework 2.1</td>
<td>Documentation for version 2.1 of the Atlassian Plugin Framework.</td>
</tr>
<tr>
<td>Plugin Framework 2.2</td>
<td>Documentation for version 2.2 of the Atlassian Plugin Framework.</td>
</tr>
<tr>
<td>Plugin Framework 2.3</td>
<td>Documentation for version 2.3 of the Atlassian Plugin Framework.</td>
</tr>
<tr>
<td>Plugin Framework 2.4</td>
<td>Documentation for the latest version of the Atlassian Plugin Framework.</td>
</tr>
<tr>
<td>Shared Access Layer 2.0</td>
<td>Documentation for the latest version of the Atlassian Shared Access Layer (SAL)</td>
</tr>
<tr>
<td>Summit Planning</td>
<td></td>
</tr>
<tr>
<td>Test space</td>
<td></td>
</tr>
<tr>
<td>The Confluence Test Space</td>
<td>This is a space dedicated to testing and playing around with Confluence features. Everyone is invited to experiment.</td>
</tr>
<tr>
<td>User Group Sponsorship</td>
<td></td>
</tr>
</tbody>
</table>
Known Bugs

There is a known bug that occurs whenever you enable or disable a plugin in Confluence 1.4-DR2. The error will appear to be 'null', but the following will appear in the logfiles:

```
[ERROR] Tue Jan 04 18:01:20 CST 2005 [com.atlassian.core.util.DateUtils]
java.util.MissingResourceException: Can't find resource for bundle
java.util.PropertyResourceBundle, key core.dateutils.minutes
```

This is issue CONF-2513 and will be fixed in the next DR.

Release Notes 1.4-DR3

Confluence 1.4-DR3 is the third development release in the cycle leading up to Confluence 1.4. It is the first step in a process of making the
Confluence User Interface simpler, and easier to navigate.

Who should upgrade?

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.2.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.3 release notes.

Downloads

All development releases are available from Development Releases on the Atlassian website.

New Features in Confluence 1.4-DR3

User Interface Enhancements

Some of the most frequent feedback we get about Confluence is that while users like the wealth of features on offer, the interface is often
overwhelmed by too much information and too many options, making Confluence difficult to navigate, and difficult to introduce to non-technical users. Confluence 1.4-DR3 is the first step in an attempt to present a cleaner, more useable design for Confluence, while still providing a powerful interface for experienced users.

1.4-DR3 is a developer release. As such, some of the changes to the interface are incomplete, and some may not make it into the final version. Please offer your feedback on 1.4 UI Discussion.

While the obvious way to get a look at the new interface is just to explore this site, here are a few screenshots that might help:

**Confluence 1.4 Interface Changes**

- New look recently updated list for spaces
- New attachment management interface
- More functional edit page interface
- Simpler dashboard
- Cleaner (and wider) page view

I'm also compiling a page to help people who are used to Confluence Classic, and might be a little lost in the new interface: 1.4 Interface - Where Did Everything Go?

**Known Bugs**

A page has been created in the Discussion space to gather comments, suggestions, compliments and complaints about the new interface: 1.4 UI Discussion

**1.4 Interface - Where Did Everything Go?**

If you're used to the Confluence Classic interface, the new 1.4 interface might be a little hard to navigate at first. We think that the new design is a vast improvement, but it's inevitable that people who have used the application since its release will be wondering where some of the buttons they were used to have gone...
Where Did They Go...

- Blogs?
- Rename Page?
- Move Page?
- Create Child Page?
- Page Locks?

Like it? Don’t? Join the discussion.

### Blogs?

By incredibly popular demand, blogs have been renamed to "News" across the site. While blogs are all the rage at the moment (or, as my brother would say, very zeitgeisty), it's still far easier to explain "News" to someone familiar with blogs, than it is to explain blogs to someone who is familiar with news.

### Rename Page?

Rename page is no longer a separate function. Just edit the page and change the page title, and Confluence will rename all the links to the page for you.

### Move Page?

Move page is no longer a separate function. Just edit the page and change its space, and Confluence will move the page to the new space for you, renaming any links to the page. If the page has children, you will be given the option to move all the children as well.

### Create Child Page?

Whenever you select the "Add Page" link from the top of the page, your current page will be automatically inserted into the Parent Page box. We've found that this is the way most people use Confluence anyway.
Page Locks?

Page locks have been renamed “Permissions” and moved to the bottom of the edit page. We found that most people didn’t understand (or couldn’t find) locks, and thus didn’t understand that Confluence has page-level edit security.

![Page Locks](image)

Page History? Short URL? Incoming Links? Hot Referrers?

All this information has been moved under the "Info" tab when you view a page.

![Page History Info](image)

Release Notes 1.4-DR4

Confluence 1.4-DR4

Confluence 1.4-DR4 is the fourth development release in the cycle leading up to Confluence 1.4. In 1.4-DR4 the user interface continues to improve, and our new wiki->HTML renderer lands, fixing a large number of bugs (but probably introducing a few more)

1.4-DR4a

One of the bugs that was introduced in 1.4-DR4 caused the edit option to disappear completely from the Confluence interface for anyone who was not a global administrator. Because that issue rendered Confluence mostly unusable, 1.4-DR4a has been released including a fix to that problem. 1.4-DR4a also includes the patch for Confluence Security Advisory 2005-02-09.

We would like to remind everyone who downloads the developer releases that they are not fully stable.

Who should upgrade?

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features.
If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3 or higher, you can find instructions here. *We strongly recommend that you backup your confluence.home directory and database before upgrading!*

If you are upgrading from Confluence 1.2.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.3 release notes.

**Downloads**

All development releases are available from Development Releases on the Atlassian website.

**New Features in Confluence 1.4-DR4**

**User Interface Enhancements**

The user interface of Confluence continues to improve. A big thankyou to all the users who contributed feedback on DR3. While the changes between DR3 and DR4 aren't as radical as the last release, we've been able to polish up a lot of the edges, and make Confluence even easier and more pleasant to use.

We're still gathering feedback on the UI changes, add your input here: 1.4 UI Discussion

**Mail Archives**

- You can now bulk-delete all mail within a space (mail deleted this way does not go to the trash, and *can not* be recovered later!)
- Pagination on the mail archives is a bit more sane: it doesn't try to tell you about every single page of mail in the archives.
- The mbox importer detects if you're trying to import something that isn't an mbox file, making you much less likely to break anything if you upload the wrong file.

**Nofollow Support**

As part of the effort to combat spam on wikis and blogs (Confluence being both), Google *came up with some markup* that will cause search-engine not to follow links. By removing the main benefit of wiki-spamming (increased search-engine PageRank), it's hoped that the noxious practice will stop being cost-effective, and eventually die out.

By default, all URLs inserted in a page (or in comments) will be given the *nofollow* tag. Inter-page links or shortcut links (i.e. CONF-2622) will not be tagged. If your wiki doesn't support public editing or commenting, or you just *disapprove of nofollow on principle*, the site administrator can turn the feature off in General Configuration.

**V2Renderer**

Over the last few releases of Confluence, it has become apparent that the engine we were using to convert wiki text to HTML was starting to cause us problems. There were a growing number of bugs that we *simply couldn't fix*, because the nature of the engine meant that fixing one bug would cause ten worse bugs to spring up in its place. After a few false starts, we can now introduce 'v2Renderer', which fixes quite a few of these problems already, and promises to make fixing the rest of them much easier:

*Error formatting macro: jiraissues: java.lang.RuntimeException: A value with ID '11040' does not exist for the field 'fixVersion'.*

Because this is the first public release of v2Renderer, it's likely that there are some situations in which the markup of pages may change. We've been pretty careful, but users who have been making heavy use of undocumented (or accidental) features of the old markup may encounter situations in which the page displays differently to before. Please, *please report these problems to us*, so that we can fix the renderer for the final release, or perhaps provide you with a script to painlessly convert your pages to a markup that works.

*Please report these problems to us or provide you with a script to painlessly convert your pages to a markup that works.*

**Renderer Bugs**

If you file a bug about the v2Renderer, *PLEASE* make sure you put it in the Wiki/XHTML component: this makes finding all the relevant bugs so much easier for me. – Charles Miller

**Macros**

There is a new macro API that we will be rolling out for 1.4. However, there's a compatibility layer in place to make sure that most 1.3 macros will continue to function properly. Most macros written for Confluence 1.3 will continue to work in 1.4-DR4. Most of our macros are running without any changes at all, and many of the ones we did migrate were changed over in order to use the capabilities of the new engine to fix bugs.

We suggest that macro authors who are worried about compatibility test their macros with 1.4-DR4 and contact us as soon as possible to discuss how we can improve the compatibility layer before the final release, or help you migrate to the new API.

**Known Bugs**

The renaming of links when a page is moved or renamed is currently unreliable. This is a side-effect of the change in renderers, and will be fixed before the final version of 1.4 is released.

**Release Notes 1.4-DR6**
Confluence 1.4-DR6

Confluence 1.4-DR6 is the next development release in the cycle leading up to Confluence 1.4. In 1.4-DR6 we:

- introduce page-level view permissions,
- make Confluence radically more themeable,
- further improved the overall user interface and usability,
- add several interesting new plugin types,
- add file attachments to blog posts and user profile pages,
- let you customize Confluence logos at a space and global level, and
- help you keep track of all the email watches you might have set up in Confluence.

Phew! Got all that?

Who should upgrade?

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

Note for Oracle Users

Confluence 1.4-DR6 is currently not recommended for Oracle users, as it has not passed our test-suite against the Oracle database. This will (obviously) be fixed before we release Confluence 1.4.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.2.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.3 release notes.

If you upgrade to Confluence 1.4-DR6 you will need to rebuild your search indexes before search will function correctly. Look for "Rebuild Search Index" on the global Administration page.

Downloads

All development releases are available from Development Releases on the Atlassian website.

New Features in Confluence 1.4-DR6

See also: Issues Resolved for 1.4-DR6

Page Level Permissioning

A highly-requested feature, and the reason this DR took so long to get out, you can now hide pages from other users. The option for hiding pages can be found at the bottom of the page’s "Edit" screen.

- You can hide a page so it is only visible to yourself, or only visible to members of groups you belong to.
- Once a page is hidden, all its child pages (and their children, and so on) are also hidden.
- A new space-level permission has been introduced to determine which users are permitted to hide pages.

Please note that it may be possible for users to learn the names of hidden pages, even if they can’t see their content. So don’t make a page called "We Hate Bob Smith" if Bob Smith has access to your wiki. Just make a page called "We hate...” and put Bob’s name in the body.

Improved Themes

While the overwhelming reaction to the User Interface changes we have made in the 1.4-DR series has been positive, it has sparked continuing discussions on the user mailing list about various aspects of the presentation of a Confluence site. From these discussions we have determined:

- Everyone wants something slightly different.
- Some people want something completely different.

In response, we’ve moved to vastly improve the level of themeability that Confluence offers. Almost all of the user interface elements have been pushed into customisable decorators, so if you don’t like the tabs, you will be able to install a theme that removes them entirely! We’re hoping to bring out some example themes with the 1.4 release that do just this, but for now you can read the documentation for the new decorators in the Theme Plugins documentation.

Plugin Improvements

To make Confluence more flexible, we’re introducing more ways for advanced users to extend the system:
Uploadable Plugins

Confluence administrators can now upload new plugins through the administrative interface, and have them installed without restarting the server.

Search Extractor Plugins

Extractor plugins allow you to add custom information to Confluence's full-text index when Confluence content is saved or updated. The most obvious application for this plugin type is to allow you to index attachment formats that Confluence does not yet support, but more creative plugin authors might make use of this as a sneaky way to store and retrieve metadata about any content in the Confluence system. Documentation for Extractor plugins is coming soon.

XWork Plugins

XWork plugins allow you to add new XWork (Webwork 2) actions to Confluence. Advanced programmers can add entirely new behaviours to the application: take a look at the examples in XWork-WebWork Plugins, in which we've implemented a rudimentary "Google Suggest"-like live search entry box for Confluence:

Servlet Plugins

Servlet plugins allow you to deploy servlets into Confluence dynamically – perfect for integrating Confluence with some legacy application that is only available as a servlet. See Servlet Plugins for an example.

Attachments for Blog Posts and User Profiles

You can now upload attachments to blog posts and user profiles, both frequently requested features. Users have the option to nominate one picture attached to their profile as their "profile picture", but we haven't quite decided what to do with this information yet. 😊

There is a new global permission to determine if users can attach files to their profile. This permission is not assigned by default, so you will need to explicitly give it to users if you want to enable this feature.

Customizing Logos at a Space and Global Level

Space and global administrators may now easily configure the image displayed as the Confluence logo. This can be done for each space, or at a global level, without having to actually edit a single file.

Keeping track of your Email Watches

A Notifications link on your profile displays a list of all currently configured email watches you might have set up on various spaces or pages. You can now delete them in one, central, place or simply visit them.

Bug fixes

All bugs fixes made between Confluence 1.3.2 and Confluence 1.3.5 have been merged into the developer release branch, fixing many annoying bugs including the crash on selecting "Next" in search results. See also: Issues Resolved for 1.3.4, Issues Resolved for 1.3.5.

Issues Resolved for 1.4-DR6

Issues resolved for 1.4-DR5
Error formatting macro: jiraissuses: java.lang.RuntimeException: A value with ID '11059' does not exist for the field 'fixVersion'.

Issues resolved for 1.4-DR6
Error formatting macro: jiraissuses: java.lang.RuntimeException: A value with ID '11122' does not exist for the field 'fixVersion'.

Release Notes 1.4-DR7

Confluence 1.4-DR7

Confluence 1.4-DR7 is the first release-candidate build of Confluence 1.4. In 1.4-DR7 we have resolved over 120 issues: mostly related to fixing bugs and polishing up the application for a stable release. We anticipate that DR7 will be the last major build before the stable 1.4 release.

DR7 is not a public release. It has been built and deployed onto http://confluence.atlassian.com as part of our internal quality-control process, but we have decided that the developer time required to make this a public beta release would be better directed towards continuing the push towards a final, stable 1.4 build.

Who should upgrade?

Since Confluence 1.4-DR7 is not publicly available, nobody should upgrade. The upgrade note below is just for completeness, so when we come to gather all these release notes together into a single note for 1.4, we don't miss the warning.

Upgrade Procedure
Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3 or higher, you can find instructions here. We strongly recommend that you backup your `confluence.home` directory and database before upgrading!

If you are upgrading from Confluence 1.2.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.3 release notes.

When you first start Confluence 1.4-DR7 after upgrading, the server may take a few minutes to become fully functional. This is because Confluence is rearranging information in the database so that it can be looked up more efficiently. This will only be done the first time Confluence is started after upgrading.

**New Features in Confluence 1.4-DR7**

The changes made between DR6 and DR7 are mostly correctness and polish issues - major feature development on Confluence 1.4 has been completed. A few notable changes however are:

- The space content tree is now updated dynamically, leading to much faster page-load times and much less load on the server (for large spaces, this page was turning into a reliable way to DOS Confluence). However, you must have a modern web browser with Javascript enabled for the tree to work. (A non-Javascript fallback will be included in 1.4-final - CONF-3098)
- You can now customise the site's name alongside the logo
- The display and navigation of page history diffs has been improved significantly
- Webdav configuration has been reinstated to the same functionality as 1.3.5
- An "insert image" popup has been added to the page editing screen, that can select images from the page's attachments. There is also an Attachments tab in the "insert link" popup. Allowing file upload from these popups has not yet been implemented (CONF-3099)
- Many improvements and fixes to email notifications
- Marking your change as a "minor edit" will prevent email notifications being sent
- The new Component plugin module adds new beans to the Spring context
- You can now uninstall plugins via the web interface
- The default theme has various keyboard shortcuts (see the tabs on this page)
- The Include Page Macro can now include pages from other spaces
- For developers, macros can now decide whether or not they have a body
- Report showing all attachments to pages in a space (check it out!)
- Generally improved notifications including a much more usable "File Attached" notification
- "View wiki source" link, for all those source junkies...

And much much more.

**Release Notes 1.4-RC2**

Confluence 1.4 Release Candidate 2

1.4-RC2 is now available for download here.

Confluence 1.4-RC2 is (barring some absolute disaster) the final public developer build for Confluence 1.4. It incorporates all the changes that were deployed in the private DR7 build, as well as around 60 new bug fixes and improvements.

Confluence 1.4-RC2 is being released to give Confluence customers the opportunity to test the upgrade path for their existing Confluence installation. By testing your migration with this pre-release, you can ensure that any problems you may experience will be fixed before the final 1.4 release, rather than having to rely on ad-hoc patches or wait for 1.4.1.

**Who should upgrade?**

While 1.4-RC2 is still pre-release software, and we do not recommend upgrading production Confluence sites until the release of 1.4-final, we would recommend any existing Confluence customer install this release on a test server, and try to import their existing Confluence data into it.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3 or higher, you can find instructions here. We strongly recommend that you backup your `confluence.home` directory and database before upgrading!

If you are upgrading from Confluence 1.2.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.3 release notes.

When you first start Confluence 1.4-RC2 after upgrading, the server may take a few minutes to become fully functional. This is because Confluence is rearranging information in the database so that it can be looked up more efficiently. This will only be done the first time Confluence is started after upgrading.

**New Features in Confluence 1.4-RC2**

The changes made between DR7 and RC2 are mostly correctness and polish issues - major feature development on Confluence 1.4 has been completed. A few notable changes however are:
You can upload attachments while editing a page – from the "Insert Link" popup
The dynamic content-tree degrades gracefully on unsupported browsers
Many bugs related to PDF export (and images included in PDF exports) have been fixed
∪ characters in page titles no longer confuse the database
Text properties set via the contentPropertyManager can now be longer than 255 characters, fixing related bugs in the {tasklist} and {excerpt} macros
The {attachments} macro can display the list of attachments inline within a page
New XML-RPC and SOAP plugin types allow you to deploy web services dynamically into Confluence
A potential connection leak that has been causing problems for Oracle users has been fixed.

And much much more.

Release Notes 1.5-DR1

Confluence 1.5-DR1 is the first development release leading up to Confluence 1.5. Developer releases are a snapshot of our work in progress, allowing our customers to see what we're up to, and provide feedback

Who should upgrade?

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features. Developer releases are not suitable for running on production systems.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

DB2 Compatibility
At the time of release, there were a number of issues performing database queries for labels or RSS feeds against DB2 databases. These issues will be fixed for the next release. For now, though, we do not recommend testing this release on DB2.

Macro Compatibility
Incompatibilities exist that may cause Confluence not to start if custom macros are deployed. When upgrading to Confluence 1.5-DR1, be sure to remove any custom Macro plugins from your $confluencehome/plugins and WEB-INF/lib directories. These incompatibilities will be resolved before the final, stable release.

Upgrade Procedure
Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.4 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.4.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.4 release notes.

Downloads
All development releases are available from Development Releases on the Atlassian website.

New Features in Confluence 1.5-DR1
The three major features we’ve been working on are:

- WYSIWYG Editing
- Labels for content
- A dynamic RSS Builder

Consult JIRA for the full list of issues resolved for 1.5-DR1

1.5-DR1 also incorporates all the bug-fixes that were made between Confluence 1.4 and Confluence 1.4.3.

WYSIWYG Editing

Browser Compatibility
The Confluence WYSIWYG editor is currently only compatible with Internet Explorer 6 on Windows, plus Mozilla and Firefox across platforms. Javascript must be enabled in the browser for the editor to function. Support for Safari under Mac OS X is currently not available. To track Safari compatibility, please follow this JIRA issue: CONF-3864

The WYSIWYG editor allows for Confluence pages to be edited directly through an editing GUI embedded in the web browser, without having to remember Confluence’s wiki markup. It almost goes without saying that this has been our number one most requested features, and we’re glad we can finally offer it!
Global administrators can enable WYSIWYG editing in the General Configuration screen of the site's preferences. They can also choose whether users are presented with the WYSIWYG editor by default, or whether users default to the old wiki markup text-field.

If WYSIWYG markup is enabled, but an individual user does not like the default set by the administrator, they are free to override it in their preferences.

Labels for content

Another highly requested feature was the ability to categorise content within Confluence, beyond the rigid heirarchy allowed by spaces and parent-child relationships between pages. To this end we have introduced labels. Labels are simple one-word 'tags' that can be added to any page or blog-post that the user has permission to edit. Labels can be used to categorise content, bookmark it, flag it for attention, or anything else you can think of.

A Tag By Any Other Name

Picking a name for labels wasn’t easy. Google’s GMail service calls them labels, while other collaborative categorisation systems such as del.icio.us and Flickr call them tags. We decided that ‘label’ was a more natural description. For more information about the philosophy behind labels and tags, check out the Folksonomy page on Wikipedia

Labels can be added to any page from the edit screen, as a space-separated list of words. If you are browsing the site with a modern, Javascript-enabled browser, you’ll also be able to use the dynamic web UI to add labels directly from the page itself.

Personal Labels

If you prepend my: to a label (for example, my:todo or my:favourite, then the label is a personal label – only visible to you. Personal labels allow you to discreetly tag content for your own purposes. You can browse your personal labels from your user profile. Any user can add their personal labels to a page, even if they don’t have permission to edit it.
A third highly-requested feature. Confluence has always provided a brace of useful RSS feeds, but the problem is that for every feed we provided, users wanted half a dozen more. The obvious answer is to let users build RSS feeds based on their own chosen criteria. You can access the RSS builder from the Confluence dashboard.

Once in the builder, you can choose:

- Which spaces to include in the feed
- Which types of content should be tracked
- Which labels, if any, you are interested in
- How many items to include in the feed
- Whether you want a single RSS entry per page or one for each time the page is edited
- Whether you want an RSS 2.0 or Atom 0.3 feed
- Whether Confluence should require authentication to view the feed

Once you have decided what you want, Confluence will give you a URL to paste into your RSS reader. These URLs can be shared with other Confluence users, although they will only ever be allowed to see content that they have permission to view. If you have asked to authenticate, Confluence will require HTTP Basic Authentication, which is supported by most RSS readers.

We've also taken the opportunity to improve the presentation of our RSS feeds - including a lot more information in each feed so you can follow your Confluence site entirely from your newsreader.

Known Bugs

Confluence 1.5-DR1 is a preview, not a full Confluence release, and as such there are a number of known bugs included in the release (at no extra cost!). Important bugs include:

- Label and RSS database queries do not work on DB2
- WYSIWYG editor adds extra information to browser history on Firefox
- Going to a page when not logged in will present you with a 404 error page, instead of giving you the chance to log in
- Various WYSIWYG round-trip bugs

Release Notes 1.5-DR2

Confluence 1.5-DR2 is the first public development release leading up to Confluence 1.5. (Confluence 1.5-DR1 was an internal release only). Developer releases are a snapshot of our work in progress, allowing our customers to see what we're up to, and provide feedback.

Who should upgrade?

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features. Developer releases are not suitable for running on production systems.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

Macro Compatibility

Incompatibilities exist that may cause Confluence not to start if custom macros are deployed. When upgrading to Confluence 1.5-DR2, be sure to remove any custom Macro plugins from your $confluencehome/plugins and WEB-INF/lib directories. These incompatibilities should be resolved before the final, stable release.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.4 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.3.x or earlier, be sure to read the upgrade instructions in the Confluence 1.4 release notes.

Downloads

All development releases are available from Development Releases on the Atlassian website.

New Features in Confluence 1.5-DR2

We've been pretty busy, but the four major new features you can find in 1.5-DR2 are:
**WYSIWYG Editing**

The Confluence WYSIWYG editor is currently only compatible with Internet Explorer 6 on Windows, plus Mozilla and Firefox across platforms. JavaScript must be enabled in the browser for the editor to function. Support for Safari under Mac OS X is currently not available. To track Safari compatibility, please follow this JIRA issue: CONF-3864

The WYSIWYG editor allows for Confluence pages to be edited directly through an editing GUI embedded in the web browser, without having to remember Confluence's wiki markup. It almost goes without saying that this has been our number one most requested features, and we're glad we can finally offer it!

Global administrators can enable WYSIWYG editing in the General Configuration screen of the site's preferences. They can also choose whether users are presented with the WYSIWYG editor by default, or whether users default to the old wiki markup text-field.

If WYSIWYG markup is enabled, but an individual user does not like the default set by the administrator, they are free to override it via a "make this my default" link that will appear on whichever editor is currently not your default.

For the "feature mad" amongst us, here are some neat things you can do with the WYSIWYG editor:

- Full screen view - really useful for editing large pages. Click in the menu bar.
- Quickly switch between WYSIWYG and Wiki markup without a page refresh
- Change the size of your editing window to suit your browser. Your size preference is remembered across sessions. To change it, drag the handle in the bottom right hand corner of the editor.
- Undo and redo!

**Labels for content**

Another highly requested feature was the ability to categorise content within Confluence beyond the rigid hierarchy allowed by spaces and parent-child relationships between pages. To this end we have introduced labels.

Labels are simple one-word 'tags' that can be added to any page or blog-post the user has permission to edit. Labels can be used to categorise content, bookmark it, flag it for attention, or anything else you can think of.

**A Tag By Any Other Name**

Picking a name for labels wasn't easy. Google's GMail service calls them labels, while other collaborative categorisation systems such as del.icio.us and Flickr call them tags. We decided that 'label' was a more natural description. For more information about the philosophy behind labels and tags, check out the Folksonomy page on Wikipedia

Labels can be added to any page from the edit screen, as a space-separated list of words. If you are browsing the site with a modern, Javascript-enabled browser, you'll also be able to use the dynamic web UI to add labels while viewing the page through an interactive interface.
Once a page is labeled, then clicking on the label's name allows you to browse other pages with the same label, or view related labels that commonly occur on the same pages.
You can also view the space's most popular labels from the space browser, to get an idea of the most popular topics within the space.

Many other Confluence features interact with labels: they can be searched for through the search interface, the new RSS builder can filter pages by their label, and we're looking forward to building label support into Confluence's packaged macros, and even the dashboard.

**Personal Labels**
If you prepend `my:` to a label (for example, `my:todo` or `my:favourite`), then the label is a personal label – only visible to you. Personal labels allow you to tag content for your own purposes. You can browse your personal labels from your user profile. Any user can add their personal labels to any page, even when they don't have editing permission.

**Personal Label Privacy**
It is possible in Confluence 1.5-DR2 to see other people's personal labels in various views through the system. This is a known issue and in the final release, personal labels will be private to the user. (sharing personal labels at the user's discretion is also planned for the future)

**Favourites**
Favourites are a special personal label: `my:favourite` or `my:favorite`. Whenever you see the ✨ icon, it means you can label this content as being your favourite, and whenever you see the 🎇 icon, it means that the content is currently in your list of favourites. You can view your favourites from the Labels tab of your user profile, but they come in handy for...

**Labels and the Dashboard**
Labels can be used on the Dashboard to create different views of the Confluence site. The list of spaces now offers the following tabs:

- **My** shows you spaces that you have labelled as a Favourite. You can label any space you see on the dashboard by clicking its ✨ icon.
- **Team** allows space admins to dynamically create lists of spaces on particular topics (see below. This tab only appears if there are teams that the user can see)
- **New** shows any spaces that have been created in the last week (This tab only appears if there are new spaces)
- **All** shows all the spaces in the Confluence site

A "team" is a group of spaces that share a common team label. Spaces can be labeled from the Advanced tab of Browse Space.
As of Confluence 1.5-DR2, anyone can add space-level labels. This will be fixed in the final release.

The Recent Changes list on the dashboard will show only content that has been changed in the spaces that are currently listed in the space view. So if you are currently viewing the 'My' tab, only updates in your favourite spaces will be shown on the dashboard.

If you are logged in, Confluence will remember your most recently selected tab and team on the dashboard.

**Dynamic RSS Builder**

A third highly-requested feature. Confluence has always provided a brace of useful RSS feeds, but the problem is that for every feed we provided, users wanted half a dozen more. The obvious answer is to let users build RSS feeds based on their own chosen criteria. You can access the RSS builder from the Confluence dashboard.

Once in the builder, you can choose:
- Which spaces to include in the feed
- Which types of content should be tracked
- Which labels, if any, you are interested in
- How many items to include in the feed
- Whether you want a single RSS entry per page or one for each time the page is edited
- Whether you want an RSS 2.0 or Atom 0.3 feed
- Whether Confluence should require authentication to view the feed

Once you have decided what you want, Confluence will give you a URL to paste into your RSS reader. These URLs can be shared with other Confluence users, although they will only ever be allowed to see content that they have permission to view. If you have asked to authenticate, Confluence will require HTTP Basic Authentication, which is supported by most RSS readers.

We've also taken the opportunity to improve the presentation of our RSS feeds - including a lot more information in each feed so you can follow your Confluence site entirely from your newsreader.

**Change summaries**

In a very late addition (added during our recent ShipIt Day 2), Confluence now has change summaries. These allow you to add a comment to each edit that will appear in change histories, allowing you to keep a more complete record of how and why a particular page has been modified.
There is also a \{change-history\} macro to enable you to display a page's history within its body if you so desire.

Other Things to Check Out

Embed Flash and Movies

You can now embed Flash content or movies (Quicktime or Windows Media) into a page as easily as you can an image: just attach the Flash or movie file to the page, then include it as you would include an image (!filename.mov!).

Export Pages as Word Documents

You can now export pages straight into Word from the Info tab. This is extremely useful for emailing around content to non-Confluence users, printing a document or just creating a backup in Word.

Improved Search Interface

Results returned from Confluence's search engine now have:

- Improved contextual results, showing the most important text around where your query was matched in the page
- Contextual results for any attachment: see where a search was matched even inside PDF, Word, PowerPoint or Excel documents!
- Search results for attachments give you more (and clearer) information about what the attachment is, and where it's from!

Improved Gallery Macro

The gallery macro has been spruced up, and now has a slideshow view:

These release notes exported to Word (even on a Mac!) - great for printing too.

The new RSS builder lets you construct RSS feeds of exactly the content you want.

View page label interface showing autocomplete.

Improved search showing fragments from attachments, file sizes and types.

My personal labels! Only for me!
The new Dashboard space tabs, here showing the "jira" team tab and one favourite space.

A very basic (quite boring - sorry, it's late) example of change summaries.

Popular labels for a given space.

Alphabetically organised labels for a given space.

Also:

- Additions to the Confluence Remote API including:
  - Comment manipulation
  - Label manipulation
  - Attachment uploading and editing
  - Improved user- and permissions management
- Import and restore now have progress indicators
- Backup and restore use significantly less memory
- The embedded database has been upgraded to HSQL 1.8, which should be significantly more reliable
- Collapsed breadcrumbs now expand with a single mouse click

Known Bugs

Confluence 1.5-DR2 is a preview, not a full Confluence release, and as such there are a number of known bugs included in the release (at no extra cost!). Important bugs include:

- The left-navigation theme is currently broken
- The "make this my default editor" link does not always appear (try switching back and forth between views)
- The Info page may cause a Hibernate exception when its parent has page level permissions
- The space export may be unreliable, and does not properly back up labels.
- Incoming Trackback pings are not recognised
- Various WYSIWYG round-trip inconsistencies

Release Notes 2.0-RC1

Confluence 2.0-RC1 is the first release candidate for Confluence 2.0 (previously known as Confluence 1.5). It resolves almost 150 issues since the 1.5-RC2 release.

Who should upgrade?

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features. Developer releases are not suitable for running on production systems.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.4 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!
If you are upgrading from Confluence 1.3.x or earlier, be sure to read the upgrade instructions in the Confluence 1.4 release notes.

**Important Notice**

If, after you have upgraded Confluence, the "Recent Changes" list on the dashboard is empty, this may be because you need to re-build your site's search index. You can do this under Administration Content Indexing Rebuild Search Index

**Downloads**

All development releases are available from Development Releases on the Atlassian website.

**New Features in Confluence 2.0-RC1**

The 2.0-RC1 has largely concentrated on fixing bugs and polishing existing features. If you are upgrading from Confluence 1.4 or earlier, you should read the 1.5-DR2 Release Notes for a description of the major new features in Confluence 2.0.

Consult JIRA for the full list of issues resolved for 2.0-RC1.

**Notable Features and Improvements**

- You can now place markup such as bold or italics within a word if you are using the WYSIWYG editor
- The following characters are now permitted in page titles:  &  ( ) * ~ $ _ ~ 
- The most recent change comment for a page is now included in the page's searchable text
- rel="nofollow" added to links to printable versions of pages, to prevent them from being indexed by search engines
- The Recent Changes list on the dashboard now correctly reflects whether you are viewing all spaces, a team, or your favourite spaces
- Further improvements to the edit page UI including:
  - Improved label editing
  - Inline page previewing
  - Hiding of lesser-used functions such as moving a page or editing page permissions
- Attachment downloads now support HTTP conditional get
- Space exports now include that space's labels and page-level properties
- Support for labels in the SOAP and XML-RPC remote APIs has been completed
- Determining if a user exists via the remote API is now supported

**Release Notes 2.0-RC2**

Confluence 2.0-RC2 is the second release candidate for Confluence 2.0 (previously known as Confluence 1.5). It resolves almost 80 issues since the 1.5-RC1 release.

**Who should upgrade?**

Development releases are snapshots of the ongoing Confluence development process. We make them available for customers who are willing to risk an unpolished release in order to have early access to new features. Developer releases are not suitable for running on production systems.

If you want to be running the most stable and most reliable version of Confluence, you should stick with the official, numbered releases.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.4 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.3.x or earlier, be sure to read the upgrade instructions in the Confluence 1.4 release notes.

**Important Notice**

If, after you have upgraded Confluence, the "Recent Changes" list on the dashboard is empty, this may be because you need to re-build your site's search index. You can do this under Administration Content Indexing Rebuild Search Index

**Important Notice 2**

If, after you have upgraded Confluence and you find the page breadcrumbs do not show the page's parents correctly, log into your site as administrator, then visit http://yoursite.example.com/admin/permissions/rebuild_ancestor_table.action (substituting your own site's URL, obviously) to rebuild the ancestor table (this will be fixed for the final release).

**Downloads**

All development releases are available from Development Releases on the Atlassian website.

**New Features in Confluence 2.0-RC2**
The 2.0-RC2 has largely concentrated on fixing bugs and polishing existing features. If you are upgrading from Confluence 1.4 or earlier, you should read the 1.5-DR2 Release Notes for a description of the major new features in Confluence 2.0.

Consult JIRA for the full list of issues resolved for 2.0-RC2.

Error formatting macro: jiraissues: java.lang.RuntimeException: A value with ID '11500' does not exist for the field 'fixVersion'.

Release Notes 2.3-DR1

Confluence 2.3-DR1 is the first public development release leading up to Confluence 2.3. Development releases are a snapshot of our work in progress, allowing our customers to see what we're up to.

Please note the following

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- **No upgrade path** — Because development releases represent work in progress, we cannot provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Who should upgrade?

This development release is being made available specifically for Confluence plugin developers. The changes to the Confluence API discussed below mean that many plugins will need to be updated to work with Confluence 2.3.

For all production use and testing of Confluence, please use the latest official release.

The bundled Tangosol library with this development release has a license which expires on August 31, 2006. This release will not operate after that date.

This release should not be used for testing a clustered deployment; the clustering user interface is not yet complete.

Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 2.2.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

If you are upgrading from Confluence 2.1.x or earlier, be sure to read the upgrade instructions in the Confluence 2.2 release notes.

Downloads

All development releases are available from Development Releases on the Atlassian website.

New features in Confluence 2.3

In short, the new features of Confluence 2.3 are:

- Clustering support (not available in 2.3-DR1)
- People directory
- Bundled Plugin Repository Client

Architecture changes between Confluence 2.2 and 2.3-DR1

Summarised below are architectural changes that might be relevant to plugin developers. Please add a comment below if there is anything else that should be listed here.

We've kicked the Bucket!

Most of the functionality of Confluence’s biggest internal library, bucket, has been split into three new components: atlassian-config, atlassian-spring and atlassian-event.

Where practical, the old interface is still available as deprecated classes and methods. However, some plugins will not compile unless modified to use the new package names.
Please refer to the source code or [Javadoc](http://example.com) for details on the new interface.

**Tangosol Coherence replaces EhCache**

Tangosol Coherence is now the caching library used by Confluence, both in clustered and non-clustered mode. To facilitate this, some of the caching APIs have been updated.

As mentioned above, the Tangosol license included with this release is specifically for testing purposes and will expire on August 31, 2006.

**Bandana configuration stored in database**

The Bandana Confluence configuration files previously stored in confluence-home are now stored in the database. An upgrade from a previous version will automatically move existing configuration settings to the database.

**Release Notes 2.3-DR2**

Confluence 2.3-DR2 is the second public development release leading up to Confluence 2.3. Development releases are a snapshot of our work in progress, allowing our customers to see what we're up to.

**Who should upgrade?**

Please note the following:

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- **No upgrade path** — Because development releases represent work in progress, we **cannot** provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

This development release is being made available specifically for Confluence plugin developers. The changes to the Confluence API discussed below mean that many plugins will need to be updated to work with Confluence 2.3.

For all production use and testing of Confluence, please use the latest official release.

This release should not be used for testing a clustered deployment; the clustering user interface is not yet complete.

**Upgrade Procedure**

Follow the normal upgrade instructions to upgrade from Confluence 2.2.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

If you are upgrading from Confluence 2.1.x or earlier, be sure to read the upgrade instructions in the Confluence 2.2 release notes.

**Downloads**

All development releases are available from Development Releases on the Atlassian website.

**Things to look out for**

- The Tangosol Coherence jars included in this DR are now fully licensed.
- The API for retrieving historical versions of content has changed.

**Architecture changes between Confluence 2.3-DR1 and 2.3-DR2**

**Content history API changed**

The `getPreviousVersions` method of `ContentEntityObject` has been removed, because it was insanely inefficient as soon as a piece of content started having lots of versions. It has been replaced with the following methods on the `ContentEntityManager`:
The VersionHistorySummary class defines a limited set of Content data that is relevant to viewing version histories.

Release Notes 2.6-dr1

Confluence 2.6-dr1 is a public development release leading up to Confluence 2.6. Development releases are a snapshot of our work in progress, allowing our customers to see what we’re up to.

Who should upgrade?

Please note the following

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- **No upgrade path** — Because development releases represent work in progress, we cannot provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

This development release is being made available specifically for Confluence plugin developers to test their existing plugins against the significant style changes that have been made.

For all production use and testing of Confluence, please use the latest official release.

Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 2.5.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

Downloads

All development releases are available from Development Releases on the Atlassian website.

Note about themes

Confluence 2.5.x themes are expected to be compatible with 2.6 without authors needing to make any change to their existing themes. This is possible because Confluence will, by default, include all Confluence 2.5.x specific styles automatically.

However, if you would like to upgrade your theme to use the latest style and typography changes in Confluence 2.6, you will need to update the way you include stylesheets in your theme. Full instructions on how to do so can be found here.

Including Cascading Stylesheets in Themes for Confluence 2.6

Firstly, you will need to disable the inclusion of Confluence 2.5.x styles. These were included by default to allow 2.5.x themes to remain compatible in Confluence version 2.6 and after.

To disable 2.5.x styles, add the following to your theme’s atlassian-plugin.xml:
Note the flag `includeClassicStyles` is set to `false`. You will have to set this explicitly as the default is `true`.

Secondly, you will need to declare your custom theme style sheet in `atlassian-plugin.xml` like this:

```xml
...<theme key="aqua" i18n-name-key="com.atlassian.confluence.themes.aqua.name" name="Aqua Theme" class="com.atlassian.confluence.themes.BasicTheme">
  <description key="com.atlassian.confluence.themes.aqua.desc"/>
  <param name="includeClassicStyles" value="false"/>
...</theme>
...```

### Differences from Confluence 2.5.x

- You no longer have to include your theme stylesheet in the main decorator using `#pluginStylesheet` anymore. Confluence will load your theme's stylesheet automatically provided that its the active theme.
- The resource is declared in the `theme` module instead of the `layout` module.
- You need to start your custom style sheet (say `my.css.vm`), by copying over the latest styles from `http://yourhost/contextPath/styles/main-action.css`. This step is necessary as Confluence now includes either your theme stylesheet or the default stylesheet, **not both**. This implies:
  - you can no longer rely on the default styles being there to style parts of the Confluence you are not directly theming
  - you are no longer overriding styles with your plugin style sheet. It is now the primary stylesheet
  - you will need to merge any new styles in later versions of Confluence into your theme's style sheet

### Multiple style sheets

It is possible to configure your theme to use multiple style sheets. This feature may useful if you want to break up your main style sheet into a few smaller style sheets with more defined purposes. You can declare these like so:

```xml
...<theme key="aqua" i18n-name-key="com.atlassian.confluence.themes.aqua.name" name="Aqua Theme" class="com.atlassian.confluence.themes.BasicTheme">
  <description key="com.atlassian.confluence.themes.aqua.desc"/>
  <resource type="stylesheet" name="my.css" location="styles/my-css.vm"/>
...</theme>
...```

These styles sheets will be included in the order in which they are declared.

### Release Notes 2.7-m2 ("Milestone 2")

⚠️ **Do not use this release to upgrade your production systems.**

For all production use and testing of Confluence, please use the latest official release.

Confluence 2.7-m2 is the first milestone development release for 2.7. This is a public **development release** leading up to Confluence 2.7. Development releases are a snapshot of our work in progress, allowing our customers to see what we're up to.

Who should upgrade?
Please note the following

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.
- **No upgrade path** — Because development releases represent work in progress, we can not provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code.

Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone.

Milestone releases have not been load- or stress-tested. So, for example, they might behave well on a small installation but show severe problems when subjected to many users.

**Upgrade Procedure**

Follow the normal upgrade instructions to upgrade from Confluence 2.6.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

**Downloads**

All development releases are available from Development Releases on the Atlassian website.

**Bugs fixed in this release**

View the list of fixes in JIRA.

**Release Notes 2.7-m4 ("Milestone 4")**

- Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the latest official release.

Confluence 2.7-m4 is the second milestone development release for 2.7. (Milestone 3 has been skipped because of stability concerns.) This is a public development release (DR) leading up to Confluence 2.7. Development releases are a snapshot of our work in progress, allowing our customers to see what we're up to.

**Who should upgrade?**

Please note the following

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.
- **No upgrade path** — Because development releases represent work in progress, we can not provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code.
Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bug fixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Milestone releases have not been load- or stress-tested. So, for example, they might behave well on a small installation but show severe problems when subjected to many users.

Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 2.6.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

Downloads

All development releases are available from Development Releases on the Atlassian website.

Issues resolved in this release

View the list of fixes and newly implemented features in JIRA. They contain all the issues resolved since 2.6.x, not just the ones fixed since the previous milestone.

Release Notes 2.7-m5 ("Milestone 5")

Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the latest official release.

Confluence 2.7-m5 is a milestone development release for 2.7. This is a public development release (DR) leading up to Confluence 2.7. Development releases are a snapshot of our work in progress, allowing our customers to see what we're up to.

Who should upgrade?

Please note the following

- Development releases are not safe — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- No upgrade path — Because development releases represent work in progress, we can not provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code.

Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bug fixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Milestone releases have not been load- or stress-tested. So, for example, they might behave well on a small installation but show severe problems when subjected to many users.

Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 2.6.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

Downloads

All development releases are available from Development Releases on the Atlassian website.
Issues resolved in this release

View the list of fixes and newly implemented features in JIRA. They contain all the issues resolved during development of 2.7, not just the ones fixed since the previous milestone.

Known problems

For some reason, an outdated version of the new Dynamic Tasklist 2 was included in this milestone. Since Milestones are not real customer releases, we do ship them with bugs like this. If you want to see the latest and greatest Dynamic Tasklist 2 in action, please simply upgrade to the latest version using the plugin repository from the administration console.

Also, there is an annoying (2.7-specific) bug in this release that causes warnings for all colours used by the colour-macro: http://jira.atlassian.com/browse/CONF-10001/. It will be resolved by the time the next milestone gets released.

Apart from that, M5 is a nice Milestone release and definitely worth a look for all plugin developers - especially now that we are getting closer and closer to the end of the release cycle, and fewer and fewer major architectural changes will be made.

Release Notes 2.7-rc1 ("Release Candidate 1")

Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the latest official release.

Confluence 2.7-rc1 is a release candidate for 2.7. This is a public development release (DR) leading up to Confluence 2.7. Development releases are a snapshot of our work in progress, allowing our customers to see what we're up to.

Who should upgrade?

Please note the following

- Development releases are not safe — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- No upgrade path — Because development releases represent work in progress, we can not provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestones and release candidates aim to provide plugin developers with an opportunity to see the latest changes in the code.

Each milestone/release candidate has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too.

However, since our milestones and release candidates re timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Milestone releases and release candidates have not been load- or stress-tested. So, for example, they might behave well on a small installation but show severe problems when subjected to many users.

Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 2.6.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

Downloads

All development releases are available from Development Releases on the Atlassian website.

Issues resolved in this release

View the list of fixes and newly implemented features in JIRA. They contain all the issues resolved during development of this release, not just the ones fixed since the previous milestone.

Known problems
None.

You should really download this Release Candidate and check if your plugin works with it. If not, use the last few days before the official 2.7.0 release to fix it 😊

**Release Notes 2.8-m2 ("Milestone 2")**

⚠️ Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the latest official release.

Confluence 2.8-m2 is a milestone development release for 2.8. This is a public development release (DR) leading up to Confluence 2.8. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we're up to.

**Who should upgrade?**

⚠️ Please note the following

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- **No upgrade path** — Because development releases represent work in progress, we can not provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code.

Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Milestone releases have not been load- or stress-tested. So, for example, they might behave well on a small installation but show severe problems when subjected to many users.

**Upgrade Procedure**

Follow the normal upgrade instructions to upgrade from Confluence 2.7.x to this release. **We strongly recommend that you backup your confluence-home directory and database before upgrading!**

**Downloads**

All development releases are available from Development Releases on the Atlassian website.

**Issues resolved in this release**

- Velocity template engine upgrade

Confluence's velocity template engine has been upgraded from 1.3 to 1.5. This shouldn't mean too much to end users however there could be some compatibility problems with existing themes and plugins. Check this upgrade guide that we use internally as well: http://confluence.atlassian.com/display/DOC/Migrating+to+Velocity+1.5

- File upload component upgrade

Pell multipart has been replaced with the Jakarta Commons Fileupload component to handle web browser file uploads. Again this won't have much impact on the Confluence experience but could cause some odd problems when attaching files to Confluence.

- PDF space export

There has been some optimizations made the space PDF export which should result in less server memory usage during export

- New GZIP compression filter
Confluence team have integrated a new GZIP compression filter to achieve more efficient downloads and page views. This is not currently enabled by default, so to test this with your plugin you need to turn it on in the management console. We are using it internally at Atlassian, and the performance improvement while browsing pages is quite substantial.

You can view the complete list of fixes and newly implemented features in JIRA. They contain all the issues resolved during development of 2.8, not just the ones fixed since the previous milestone.

Known problems

There are a few cosmetic UI problems related to space logos and to the login screen, none of them impact productivity. Notification mails are empty because of a Velocity macro bug.

Release Notes 2.8-m3 ("Milestone 3")

Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the latest official release.

Confluence 2.8-m3 is a milestone development release for 2.8. This is a public development release (DR) leading up to Confluence 2.8. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we're up to.

Who should upgrade?

Please note the following

- Development releases are not safe — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.
- No upgrade path — Because development releases represent work in progress, we can not provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code. Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Milestone releases have not been load- or stress-tested. So, for example, they might behave well on a small installation but show severe problems when subjected to many users.

Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 2.7.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

Downloads

All development releases are available from Development Releases on the Atlassian website.

Issues resolved or improved in this release

- First draft of UI improvements: We are working hard on moving the HTML and CSS delivered by Confluence towards standards-compliance and accessibility. We are at the same time reworking our UI structure. We feel that the UI has been growing a bit too organically over the past years, resulting in somewhat confusing navigation like the "remove page"-button only available when you are editing a page, for example. We have implemented an initial dropdown-menu for adding content, thus already cleaning up the UI a bit. All the navigation-changes we make are targetted at the default theme, however some HTML&CSS changes may also affect the other themes.
  In the future our changes will enable plugin-developers to hook into Confluence easier than before, and skinning Confluence will be
considerably easier. However, plugin-developers should be aware of the changes we are making, and check (by examining this Milestone release) whether they have to schedule some maintenance work for their plugins. More changes will be made, so don’t rush it - but plan for it.

- First draft of Page Reordering. We are working on implementing a **highly anticipated feature** that will dramatically improve the quality of content generated from a Confluence space. So far the PDF files you generate from Confluence have been alphabetically ordered - which for example makes even the Confluence User Manual quite awkward to read. With the new page ordering feature it will be able to structure your Wiki exactly as you like - or of course leave it in alphabetic mode if you prefer that. Our goal is to deliver a really useful solution, and this Milestone only shows you the first 50% of the feature. We are currently busy implementing all the feedback and bug-reports we get from Sarah (our documentation queen) and the next Milestone releases will deliver further improvements and bugfixes.

You can view the [complete list of fixes and newly implemented features in JIRA](https://jira.atlassian.com/). They contain **all** the issues resolved during development of 2.8, not just the ones fixed since the previous milestone.

**Known problems**

No major known problems, but plenty of smaller to medium sized bugs, mainly related to page reordering. They will get tackled in M4.

**Release Notes 2.8-m4 ("Milestone 4")**

Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the **latest official release**.

Confluence 2.8-m4 is a milestone development release for 2.8. This is a public **development release** (DR) leading up to Confluence 2.8. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we’re up to.

**Who should upgrade?**

Please note the following

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.
- **No upgrade path** — Because development releases represent work in progress, we **can not** provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code.

Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Milestone releases have not been load- or stress-tested. So, for example, they might behave well on a small installation but show severe problems when subjected to many users.

**Upgrade Procedure**

Follow the **normal upgrade instructions** to upgrade from Confluence 2.7.x to this release. **We strongly recommend that you backup your confluece-home directory and database before upgrading!**

**Downloads**

All development releases are available from [Development Releases](https://confluence-atlassian.com/) on the Atlassian website.

**Issues resolved or improved in this release**

This release mainly fixes bugs and glitches of the previous milestone, and extends the functionality slightly. You will notice that a new dropdown-menu has been added which allows you to access the browse-space actions easier, and that most macros now honor the new page ordering that can be set in recently added page-reorder-component.
We had forgotten to release the source code of the previous milestones, this has been taken care of now, thanks Alain from Adaptavist for pointing this out 😊.

The coolest improvement however is that we are able to deliver the first Shipt 7 project in this milestone - less than two weeks since the actual event! (see [http://blogs.atlassian.com/developer/2007/09/atlassian_shipit_day_v1.html](http://blogs.atlassian.com/developer/2007/09/atlassian_shipit_day_v1.html) for an overview of Shipt 6 last year). Use the new drop-down menu to "Browse Labels", select one of the most popular ones, and you will now be able to filter by multiple labels - just increase or decrease the number of labels by using the plus- and minus-signs next to the related labels. Admittedly the UI still needs some finishing touches, but it works fine already and it will make 21 voters happy once released officially ([http://jira.atlassian.com/browse/CONF-4577](http://jira.atlassian.com/browse/CONF-4577)). More Shipt-projects can be expected to make it into M5 and M6.

You can view the complete list of fixes and newly implemented features in JIRA. They contain all the issues resolved during development of 2.8, not just the ones fixed since the previous milestone.

**Known problems**

There are still a few known bugs in this release, most noticeably the broken printable view ([CONF-10583](http://jira.atlassian.com/browse/CONF-10583)) which will be fixed soon. Please continue reporting problems through JIRA, your feedback has been very helpful and a lot of it has been incorporated already.

The CacheManager API has changed in milestone 4, and all plugins that use the old CacheManager interface will be broken ([CONF-10602](http://jira.atlassian.com/browse/CONF-10602)). In milestone 5, Confluence has a workaround for plugins that get the cacheManager injected. That is, the following code will work correctly in 2.8-m5 (but is currently broken in 2.8-m4):

```java
import com.atlassian.user.impl.cache.CacheManager;

public class MyClass {
    private CacheManager cacheManager;

    public void setCacheManager(CacheManager cacheManager) {
        this.cacheManager = cacheManager;
    }
}
```

Plugins that access the CacheManager not via dependency injection, but statically through the ContainerManager will fail at runtime with a ClassCastException. These plugins should be rewritten to use dependency injection, or use the new `com.atlassian.cache.CacheManager` interface. The following code is broken in 2.8-m4, and will continue to be broken for the final release of 2.8:

```java
CacheManager cacheManager = (CacheManager) ContainerManager.getComponent("cacheManager");
```
Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code.

Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Milestone releases have not been load- or stress-tested. So, for example, they might behave well on a small installation but show severe problems when subjected to many users.

Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 2.7.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

Downloads

All development releases are available from Development Releases on the Atlassian website.

Issues resolved or improved in this release

Milestone 6 incorporates Milestone 5 changes (which were released but never publicly documented, sorry)

**Milestone 5 (the missed one)**

The user interface improvements include the most drastic changes to be done for Confluence 2.8. After adding a new Actions menu to the page, we have removed the unnecessary tab navigation. This completes our migration to a menu-based user interface. The content of the page is now the most important aspect of the page, as all the editing and modification features are now out of the way when reading a page. The UI has also been improved in other small ways in this milestone, and we have fixed many bugs with the printable view and the default themes.

Plugin components that expect to be injected with the old, deprecated CacheManager interface will now work again. This means plugins such as the JIRA issues macro will be useable once more. Plugins that use the ContainerManager.getComponent method of obtaining the cache manager will continue to malfunction; there is no plan to support this usage. More commentary about this at CONF-10602.

The Page Ordering feature mostly contains bug fixes. The majority of changes are done in the back end as we prepare to remove exUS library and substitute the page tree widget with a custom component.

**Milestone 6 (the current one)**

User Interface improvements:

- performance improvements through better clientside-caching on the edit-page
- user menu has been included. The only thing missing to wrap up the UI changes is to move the remaining icon-buttons (PDF, watch pages, etc) to menu items as well. This will be delivered in two weeks.
- New and improved Tree component, that lets you drag more comfortably than before
- Added the ability to cancel a page move by pressing 'esc' after the user starts dragging a page
- Added automatic scrolling functionality. If a user drags a page to the top/bottom of the screen in an attempt to reach a page that is currently outside of the screen, it will automatically scroll up/down.
- Known problem: No indication of subnodes being loaded
- bugfixes

Technical improvements and API changes

- JMX has been added to the list of Confluence capabilities for improved monitoring
- Raising a support case is now possible directly from the admin console. This will attach logs and other relevant system information automatically.
- JQuery now default JS library. We have removed ExUS as a Javascript-dependency, and will standardize on JQuery in all of Confluence
- Coherence cache lease duration has been set at 10 minutes to support system recovery when threads do not release their leases properly. A warning message will be logged detailing that a lease has timed out to help with tracking down errant lease management.

Known problems

- We found a severe performance problem during our loadtests. Confluence works exactly like before under low load, but once you go above a request per second you will notice a much higher load than acceptable. We will fix that for the final release.
- Upgrade issue for clustered deployments. Don't use this Milestone on a Cluster.
- a few glitches when viewing with IE6&7

**Release Notes 2.8-m7 ("Milestone 7")**
Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the latest official release.

Confluence 2.8-m7 is a milestone development release for 2.8. This is a public development release (DR) leading up to Confluence 2.8. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we're up to.

**Who should upgrade?**

Please note the following

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- **No upgrade path** — Because development releases represent work in progress, we cannot provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code.

Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Milestone releases may not have not been load- or stress-tested, or maybe they have but some performance problems still persist. So, for example, they might behave well on a small installation but show severe problems when subjected to many users.

**Upgrade Procedure**

Follow the normal upgrade instructions to upgrade from Confluence 2.7.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

**Downloads**

All development releases are available from Development Releases on the Atlassian website.

**Issues resolved or improved in this release**

This page describes the changes you can expect from Confluence 2.8 Milestone 7. M7 is a "small" milestone that delivers some features that just didn't make it into M6, but which can't wait for M8 nor RCs either because we need your feedback as soon as possible!

**End-user improvements**

**User Interface improvements:**

- Matt Ryall's Shiplt project: improved comment threading, with dynamic collapsing
Confluence 3.0 Documentation

• Edit page title change

  The title is not duplicated anymore, you simply edit the title directly

• Put PDF, Watch and Favourite icons on Tools menu

  just didn’t make it into M6, but which can’t wait for RC1 either

• Replace printable view with an improved print stylesheet for better printing directly from the page
• Improved editor caching
• Fixed editor layout bug in Safari
• Menus appear on hover
• Move command in Tools menu

Page Ordering:

• Included the page ordering tree into the edit-page, ironed out some bugs
Misc:

- Our student developer Chris Broadfoot added a few missing links into our user-management section, and incorporated a pretty slick way to change the size of the pagination window. Well done!

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</table>

API changes

For plugins which configure Confluence's web interface, Condition implementations which depend on GlobalHelper are now deprecated, and should be converted to use the new WebInterfaceContext interface. The easiest way for most plugins to do this is to extend BaseConfluenceCondition rather than the now-deprecated AbstractConfluenceCondition. (Javadoc links to come once this is published.)

Known problems

- We found a severe performance problem during our load tests. Confluence works exactly like before under low load, but once you go above a request per second you will notice a much higher load than acceptable. We will fix that for the final release.
- Upgrade issue for clustered deployments. Don’t use this Milestone on a Cluster.
- a few glitches when viewing with IE6&7, and when using the new page tree in a browser without FireBug installed.

Outlook

We are in bugfix-mode now. While a few icons and CSS-styles will still change, the main priority is now to iron out all our bugs during the next two weeks.

Release Notes 2.8-m9 ("Milestone 9")
Confluence 3.0 Documentation

Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the latest official release.

Confluence 2.8-m9 is a milestone development release for 2.8. This is a public development release (DR) leading up to Confluence 2.8. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we're up to.

Who should upgrade?

Please note the following

- **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
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  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- **No upgrade path** — Because development releases represent work in progress, we cannot provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code.

Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Milestone releases may not have not been load- or stress-tested, or maybe they have but some performance problems still persist. So, for example, they might behave well on a small installation but show severe problems when subjected to many users.

**Upgrade Procedure**

Follow the normal upgrade instructions to upgrade from Confluence 2.7.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

**Downloads**

All development releases are available from Development Releases on the Atlassian website.

**Issues resolved or improved in this release**

All functional changes are now complete. We are only fixing some remaining bugs now.

**Known problems**

- We found a major performance problem during our loadtests. Confluence works exactly like before under low load, but once you go above a request per second you will notice a much load than acceptable. We will fix that for the final release.
- a few glitches when viewing with IE6&7, and when using the new page tree. Will be fixed for the final version

**Outlook**

We are in bugfix-mode now. While a few icons and CSS-styles will still change, the main priority is now to iron out all our bugs during the next one or two weeks.

**Release Notes 2.9-m2 ("Milestone 2")**
For all production use and testing of Confluence, please use the latest official release.
This release is a milestone development release for 2.9. This is a public development release (DR) leading up to Confluence 2.9. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we're up to.

Who should upgrade?

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Additionally, our performance-testing and compatibility testing for databases and application servers is not done to the full extent. So, for example, a milestone release might behave well on a small installation but show severe problems when subjected to many users.

**Upgrade Procedure**

Follow the normal upgrade instructions to upgrade from Confluence 2.8.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

**Downloads**

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**Issues resolved or improved in this release**

**Page Ordering:** We have been improving the page-tree a bit, fitting in some work that was intended for Confluence 2.8 but didn't make it. The tree now has a "revert to alphabetical mode" button which will revert manually ordered nodes back to the original alphanumeric ordering. Additionally we added one small improvement which will help to battle spam: administrators will see two additional buttons on the page tree that enable easy deletion and preview of pages. We are not entirely sure yet whether (and how) these two buttons will ship, so don't raise improvement issues for those two buttons yet. (If they ship with 2.9, then we will put in some more polish of course)

Unfortunately there are a few known (uncritical) bugs related to the revert-to-alphabetical-mode in edge-cases, which will be addressed by M3.

**Search:** The Search has improved internally (the ranking should be a bit more relevant than before), and also what is being searched has changed: mail and personal spaces are searched by default, and using the space key in the search boosts hits within that space.

**Known problems**

Some small issues, mainly with the UI, but nothing serious.

**Release Notes 2.9-m3 ("Milestone 3")**

Do not use this release to upgrade your production systems.

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Who should upgrade?
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**Upgrade Procedure**

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**Issues resolved or improved in this release**

Milestone 3 is all about the UI: It features major parts of the new search UI, and we have added two more menu items to the "Browse" menu.

Some effort was spent on making the page tree more stable, and we have spent more time on internal code improvements (which did however not ship in this milestone)
**Known problems**

Several small bugs. And a slowdown of search performance by 50%, which will be addressed in a later milestone release.

**Release Notes 2.9-m5 ("Milestone 5")**

Do not use this release to upgrade your production systems.

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**Who should upgrade?**

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**Upgrade Procedure**

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**Downloads**

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**Issues resolved or improved in this release**

We are rapidly approaching the end of the 2.9 release cycle. There will be a really small M6 later this week, and then that's it, we are going into bugfix and compatibility-testing mode, so we can release on the 29th of July.

**Plugins**

We have done a significant amount of work in the area of plugin loading (and the plugin classloaders) to improve performance. There are no API changes, but it is very possible that these changes may expose bugs. While we tried to remain backwards compatible, it is crucial that you test for compatibility of your plugins.

**Editor**

The preview in the editor is now capable of rendering content exactly as it appears on the page. However, to do this, we have had to disable interaction with the preview. You will no longer be able to follow links or interact with the preview in any other way.

When drafts are saved automatically to the server, this will be shown to you at the top of the editor.

**Engine room**
Whisper the words "Action class hierarchy" anywhere close to a Confluence developer and he or she will cringe. Not anymore as of this Milestone. Plenty of inheritance trees have been cut, and miraculously Confluence still works. This will enable us to work faster and more efficiently in the future.

**Page tree and UI**

We had a few nasty UI bugs recently where plugin JavaScript code would interfere with our menus and other JavaScript code, and we had a few Pagetree bugs. The most important ones have been fixed in this release.

**Discovery Team**

Author auto-complete field added to the search result screen to allow filtering searches by contributor (author or editor).

The 'new search' (or reset search) link on the search screen filter left the building somewhere around milestone 3. This has now been re-instated.

A couple of 2.9 specific bug fixes are also included.

**Known problems**

Several small bugs, specifically around the new author-search.

**Release Notes 2.9-rc1 ("Release Candidate 1")**

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Additionally, our performance-testing and compatibility testing for databases and application servers is not done to the full extent. So, for example, a milestone release might behave well on a small installation but show severe problems when subjected to many users.

**Upgrade Procedure**

Follow the normal upgrade instructions to upgrade from Confluence 2.8.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

**Downloads**

All development releases are available from Development Releases on the Atlassian website.
**Issues resolved or improved in this release**

We are now at the end of the 2.9 release cycle.

We have released our first release candidate RC1 today, you can see it on our public Confluence installation at http://confluence.atlassian.com. We are aware of one remaining major bug that we want to fix (JIRA-issues macro not working in preview mode), but apart from that and some minor fixes we will not change the code anymore.

While this is not the final release, and the official release notes will be unveiled next week, you should definitely have a look now if everything still works fine with your plugins, if you haven't done so yet. We made some changes to the plugin subsystem and to the action class hierarchy (please refer to the other milestone release notes), and we are aware of some plugins (such as the Gliffy plugin) which had to get changed a bit to be compatible with 2.9.

The RC1 is functionally almost equivalent to M5/M6 which was announced in early July, but has a big amount of additional bugfixes, check out our roadmap in the JIRA project at http://jira.atlassian.com/browse/CONF?report=com.atlassian.jira.plugin.system.project:roadmap-panel for more details.

**Known problems**

Jira-issues macro does not work in preview mode.

**Release Notes 2.10-m1 ("Milestone 1")**

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Do not use this release to upgrade your production systems.

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**Issues resolved or improved in this release**
It's all about small improvements this time.

During the last weeks we have fixed a whole bunch of bugs, worked on major functionality, and done a lot of planning. Therefore the M1 is a rather small release - it contains the bugfixes, but no major work yet. We have developed a new feature and two great smaller improvements which are almost done, but didn't make it into this Milestone, so expect a lot more in M2 in two weeks.

But wait, there is one small new feature that might have a big impact on EAC. Jens Schumacher, developer on Confluence Hosted, has been working on a top secret mission, and his new feature means you now can store CSS per space and for the whole installation.

Inside Atlassian we now have a small competition going with developers competing for the nicest/coolest/weirdest CSS-based design to be delivered within the next two weeks.

The competition only started yesterday, but there are some funky screenshots available already 😊 Obviously Confluence still has areas that are completely hardwired and not styable yet, but we are working on this as we go.

Release Notes 2.10-m2 ("Milestone 2")

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**Issues resolved or improved in this release**

"Did you mean?"

Dave Loeng's auto-suggest feature is the first major 20%-project to make it into Confluence. Try it out by mistyping a search, and you will find a link suggesting more relevant searches. This is an actual example of me typing way too fast: 😊

![Dashboard Search](image)

Did you mean: administrator

No results found for administrator. Please try one of the following suggestions:

- Use more general search terms
- If you are filtering by space, content, last modification date or contributor, try removing or adjusting the filter

Try misspelling someone's difficult surname, like say, 'fraggemnan'.

**User management**

Confluence Hosted developer Jens Schumacher has been very busy hacking on Confluence again, this time he improved the user-management a lot - so much more convenient than before.

- Improved Search
- Adding and removing users when viewing a group
- New table styles
- Improved User Picker

![Add User](image)

**Find User**

<table>
<thead>
<tr>
<th>User</th>
<th>Full Name</th>
<th>E-Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>A. D. Ministrator</td>
<td><a href="mailto:admin@example.com">admin@example.com</a></td>
</tr>
</tbody>
</table>
Avatar cropping and deletion

Another, smaller 20%-project also made it into this release: Charles Miller and Dmitry baranovskiy enabled Confluence to allow cropping of uploaded avatar-images, and while they were at it the highly desired "delete images you never intended to upload in the first place" issue got solved too in order to make another 23 voters happy.

Backend changes
The Engine Room team has implemented several important backend changes in this milestone:

- Integrated the first version of Plugins 2.0, including an initial migration the Confluence plugin repository to Plugins 2. An updated version of this plugin and a converted dynamic tasklist are planned for the next milestone.
- Trusted authentication and other Seraph-based authentication methods are now available for calls to the Confluence RPC methods (CONF-8680). This makes it practical to write Confluence gadgets which use the remote API to retrieve data. Tom Davies is using this to implement his Crucible Confluence review plugin.

**Release Notes 2.10-m3 ("Milestone 3")**

![Do not use this release to upgrade your production systems.](image)

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**Issues resolved or improved in this release**

**TinyMCE 3 is in**

This milestone contains the long-awaited TinyMCE 3 upgrade. It comes at a cost (we had to disable the emoticons, special characters, colour-pickers and fullscreen mode) to make it into M3, but they will be back in M4, and this gives us a much more stable Rich Text Editor two weeks earlier than expected. Please note: we have not yet started working on roundtripping bugs (e.g. stuff that breaks when switching from RTE to WikiMarkup and back). We will start attacking bugs those towards the end of the release cycle and during the 3.0 cycle. But the improvements in the RTE itself are extremely valuable already, including support for safari. If you encounter problems please don't hesitate to ask or raise issues. We want to make this a really solid experience.
Oh, and the new RTE starts up much faster too! Kudos to the relentless work of the Writer-Team (especially David T and Agnes), who have been working for many hours over the past months to get us here.

Quick Navigation

- Matches titles as you type
- Shows 3 pages, 3 news items, 2 attachments, 3 people, 2 spaces. If no titles are matched the category isn't shown.
- People's profile photos are shown
- Use your keyboard to navigate
- Now with 9% more rounded corners

Clear Search
- Improved search result page and results
  - Lighter 'Showing ...' line
  - Better fit with a grid, softening of filter panel corners and better spacing
  - Emphasis of the titles
  - Clearer, simpler result format
  - Real profile pictures of real people
- Clear filter instead of clear search
- Search field at the bottom of the page

Small improvements

Per's first 20% project displays a lock-icon next to documents that have restricted access.

Notes on deploying to your test-instance

With the TinyMCE upgrade, we have renamed the TinyMCE plugin key to match the Confluence version. Hence, you may find that there are two TinyMCE plugins installed which can cause errors when editing (e.g. the pop-ups not working). If so, you will need to disable both and then re-enable the 2.10-m3 version of TinyMCE. This will be fixed for the final 2.10 release with an upgrade task to uninstall the old plugin.
Release Notes 2.10-m4 ("Milestone 4")

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Upgrade Procedure

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Downloads

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Issues resolved or improved in this release

TinyMCE upgrade complete

- Colour Text, Insert Emoticons and Custom Character are now back in the editor!
- Fullscreen mode is also back and even better. It no longer pops up in a new window, but enlargens the editor in the current page you are editing.

Quick Navigation polish and performance improvements

- performance significantly better than m3
- can handle concurrent requests up to 30 users without breaking a sweat (on medium datasets) - this should address the timeout issues people have been having

Plugins

- New build of JIRA Issues macros. Bug-fixes, but new feature: all RSS and Email version of the macro will be static, and not require javascript or Ajax.
- Content Filtering Macros: contentbylabel and blogposts have a new, SearchAPI v2 backend.
  - All existing parameters should continue to work
  - New, standard set of parameters for various kinds of filtering
- Content Filtering macros: new {recently-changed} macro, which is a reimplementation of {recently-updated}. All existing
recently-updated params should work, with the addition of the new standard params listed above. Will eventually replace 
{recently-updated}.
• Added an optional whitelist for the RSS macro and the HTML-include macro.

Release Notes 2.10-m5 ("Milestone 5")

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• No upgrade path — Because development releases represent work in progress, we can not provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

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However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.
Additionally, our performance-testing and compatibility testing for databases and application servers is not done to the full extent. So, for example, a milestone release might behave well on a small installation but show severe problems when subjected to many users.

Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 2.9.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

Downloads

All development releases are available from Development Releases on the Atlassian website.

Issues resolved or improved in this release

Office Connector
• View Online" or "View as HTML" link for supported file types on the Attachments screen, Attachments macro, and Search Results. This makes it easy to quickly preview Office files without having to leave Confluence
New look for the PPT and PDF flash viewer with a download button, and an improved fullscreen.
Conversion Queue for managing performance when you may have a lot of users using the Office Connector.

**Rich Text Editor**

- Tab & Shift+Tab in lists are now shortcuts for indent/outdent
- Lots of bug fixes (especially around table editing)
- Round tripping bugs around links were fixed (shortcut links, using colors & images in links)
- The format dropdown is now styled properly
Quick nav improvements

- Is now at least twice as fast since we have reduced the pause by half.
- More page results! 6 in fact.
- See more of each search result. You can see the whole title (just hover!), and more letters with better truncation.
- People should not be getting weird timeout messages anymore
- New administrative feature to limit the number of simultaneous quick nav searches, or to turn it off.

Open Search

- You can now search Confluence from the convenience of the search box in your browser (for FF and IE7). Just add the search provider from the search provider menu dropdown on the top right of your browser.

Site Search improvements

- Normal search is at least 5 times faster than it use to be.
- Better relevancy algorithm relevant

Miscellaneous Small Improvements

- Cleaner, sweeter breadcrumbs and 10 more rounded corners.
Plugins

* New version of Dynamic Task List (3.1.1)
  - Fixes TASK-108

* New version of Chart Plugin (1.12)
  - Fixes CONF-12792

* SNAPSHOT version of JIRA Issues Macro
  - Fixes lots of stuff

* 1.5-SNAPSHOT version of Advanced Macros
  - removed RSS macro
  - upgrade content-by-label
  - upgraded blogposts
  - upgraded recently-updated
  - Fixed Gallery Macro: ADVMACROS-39, ADVMACROS-48, ADVMACROS-49

* 1.5-SNAPSHOT version of Dashboard Macros
  - renamed recently-updated to recently-updated-dashboard to make way for new code in Advanced Macros

* New version of HTML Macros (1.5)
  - Includes RSS Macros now to take advantage of shared whitelist

atlassian-plugins upgrade to v 2.1.0.rc1

* added filter plugin type
* added standard decorators that are available to plugins
* added support for xml plugin artifacts

Release Notes 2.10-m7 ("Milestone 7")

Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the latest official release.
This release is a milestone development release for 2.10 ("Two Ten"). This is a public development release (DR) leading up to Confluence 2.10. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we're up to.

Who should upgrade?

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Upgrade Procedure
Follow the normal upgrade instructions to upgrade from Confluence 2.9.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

Downloads

All development releases are available from Development Releases on the Atlassian website.

Issues resolved or improved in this release

Office Connector

- Changed the preview link to just "View". Previously it was "View Online" or "View as HTML". It will always be on the right of the actions links. This makes the alignment of the other links nicer.
- The slide viewer will always be downloading a few slides ahead of the current slide. This should make it appear to be loading slides faster when you advance the slides.
- Other minor refinements of the slide viewer UI.

RTE

- Keyboard shortcuts added for insert link/image (ctrl+k and ctrl+m)
- Keyboard shortcuts fixed for headings (ctrl+1 for heading one and so on)
- Links pasted into the rich text editor will work (for most browsers and to some extent for all browsers)
- Initial indent within a code macro is now displayed properly.
- Extra newlines are no longer added to bodies of most macros Eg {note}inline body{note} will be left alone by round-trip.
- Less extra whitespace will be added to wiki markup by going to rich text.
- Draft saving should now work in all browsers again.
- Editor tabs are now rounded in safari and firefox.

QuickNav

- A faulty optimisation that was causing problems with multi-word searches has been fixed.

Search

- Increased range of data boosting to cover a full year (instead of one month)

Did-you-mean

The administration screens for the did-you-mean configuration have been substantially improved.

Default Space Content

The default content used for the home page in a newly created space or personal space has been improved to show recently updated content, and a pagetree of the space.

Plugins

Included most recent bug-fix versions of:

- LeftNav Theme
- Userlister plugin
- ToC Plugin
- Social Bookmarking Plugin
- Email Page Plugin
- Live Search Plugin
- IM Presence Plugin
- Dashboard Macros Plugin
- Contributors Plugin
- Attachments Plugin
- JIRA Plugin
- Advanced Macros

Engine Room

Multiple bug fixes.

Release Notes 2.10-m8 ("Milestone 8")

Do not use this release to upgrade your production systems.
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Upgrade Procedure

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Downloads

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Issues resolved or improved in this release

**Writer**

Bug fixes:

- CONF-13670: fixed bug when Html Export used to fail on recently updated macro displaying an attachment.

**Office Connector**

- CONF-13613: fixed several bugs in the pdf preview
- CONF-13643: fixed previewing viewfile macro gives error on a new page with attachments

Numerous other bugs. See the Office Connector release notes

**Discovery**

- Added recentness boosting to QuickNav.
- Added the space name to the tooltips for QuickNav results.
- Fixed bug preventing Did-You-Mean feature being enabled via the admin console.

**Plugins**

- Upgraded to Jira Macros Plugin v2.8.7, which contains several bugfixes (m7 contained v2.8.6)

**Bug Fixing**

Significant bug fixes since M7 include:

- CONF-13580: a blocker bug when editing pages with certain types of macros.
- CONF-13543: a blocker bug causing drafts to not be saved in certain situations
• CONF-13521: a serious issue with the RTE forcing the use of the base url.
• Several bugs (CONF-13338) fixed relating to the escaping of attachment filenames.
• Fixed the HTML around the quick search box that was causing a large right hand margin on some browsers.

Release Notes 2.10-rc1 (“Release Candidate 1”)

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Upgrade Procedure

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Issues resolved or improved in this release

We are now reaching the end of the 2.10 release cycle.

We have released our first release candidate RC1 today, you can see it on our public Confluence installation at http://confluence.atlassian.com. There should be no more code changes made to Confluence from this point on unless any important issues are found in this release candidate.

While this is not the final release, and the official release notes will be unveiled next week, you should definitely have a look now to confirm everything still works fine with your plugins.

The RC1 is functionally almost equivalent to M8 which was announced in early November, but has a number of additional bugfixes. Check out our roadmap in the JIRA project

Known problems

The Edit Grid plugin doesn’t work with this version of Confluence. See the Jira issue for more details.

Release Notes 3.0-beta2 (”Beta 2”)

Welcome to our Beta Phase

The Confluence team is proud to present the first public beta release of our upcoming Confluence 3 release. It contains all the features we intend to ship. We will be publishing Beta 3 next week, and then a rapid succession of Release Candidates in two weeks. We aim at shipping Confluence 3.0 in (very) early June.

So, calling all plugin developers: If you want to make sure your plugin plays nicely with 3.0 on the launch date, and if you maybe even want to use our new features from within your plugin, this is really the last chance to get started. Download the Beta right now

Note: This is still not a stable release, it is not meant for production use. So our normal Milestone disclaimer still applies:
### Milestone release advisory

| Do not use this release to upgrade your production systems. |

For all production use and testing of Confluence, please use the latest official release. This release is a public development release ("Milestone") leading up to Confluence 3.1, which will be probably shipped in Q4/2009. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we're up to.

### Who should upgrade?

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**Upgrade Procedure**

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**Downloads**

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### What is in it?

All the features we intend to ship are available in this beta. Unfortunately, the official documentation is not ready yet, so until we get a more official summary of the new features, please refer to our recent Milestone release notes, and try the beta out yourself.

### Improvements

Since publishing Milestone 9, we have focussed on polishing our existing features. Here is a rundown on the changes since then:

**Community features**

Some important bug fixes:

Some IE issues: CONF-15497, CONF-15137, CONF-15474, CONF-15421, CONF-14593

Improvements to User Follow: CONF-15335, CONF-15279, CONF-15427, CONF-15286, CONF-15016

Removed the annoying page reload when following a user, CONF-15290

**Macro Browser**
Preview button removed and replaced by a refresh icon:

![Preview button](image)

Some important bug fixes:

**CONF-14720** Inserting a macro via the macro browser would always scroll to the top, which is very annoying if you are editing the end of the page.

**CONF-15487** It is now possible to insert more than one macro in Safari via the macro browser!

**Office Connector**

**CONF-14798** Performance improvements on the backend for the viewfile macro.

Also, the initial loading of the Flash front end should be a little snappier. There was a default "pre-load" screen that added 1-2 seconds to the load time. We also changed the background color to white so it also adds the impression of not appearing until it's loaded.

<table>
<thead>
<tr>
<th>Old</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Old image" /></td>
<td><img src="image" alt="New image" /></td>
</tr>
</tbody>
</table>

**Engine Room**

Confluence has been upgraded to the latest releases of Plugins 2 and SAL.

We did a small performance improvement by caching PersonalInformation objects by user name (**CONF-15484**), which will in particular speed up the rendering of profile pictures.

As part of this release cycle we fixed a lot of smaller bugs, but the most notable ones were related to content indexing:

**CONF-15352** Fixed a race condition during content indexing which would result in leaked file handles, which had been introduced in M9.

**CONF-15483** Fixed a problem with a reindex being started before the plugin system was loaded. This would result in empty documents in the index.

**Random**

**CONF-14322** was fixed, so change comments containing ampersands and angle brackets will no longer affect the system.

**Known Issues**

The Flash preview is broken in Office Connector that is bundled with beta 2. See **CONF-15612**. It's already fixed and it will be bundled in Beta 3 next week.

**Release Notes 3.0-m3** ("Milestone 3")
Milestone release advisory

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Upgrade Procedure

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Downloads

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Issues resolved or improved in this milestone since Confluence 2.10

User Hover

The first cut of User Hover has made it into m3. This mainly provides Confluence with the stepping block for features like Status. At present, it's only really useful to e-mail someone, or visit their user profile (both are notoriously difficult pre-m3).

Just hover over any user's name or profile picture, you should see the following information:
Performance

The Engine Room Team has started attacking general performance and also cluster performance. Our load tests already show a significant improvement for high loads, and we hope it will show on EAC too.

In particular we made the following changes:

- Remove blocking in OGNL (CONF-14121)
- Rely on Coherence to do locking instead of using synchronization methods (CONF-14093)
- Remove unnecessary synchronization on Hibernate's UpdateTimestampsCache (CONF-14098)

More backend improvements related to caching and retrieval of macros have been done, which should make rendering long pages faster.

Overall we have seen a significant performance improvement under light to mid-level load, even more so on the clustered version of Confluence. This is mostly due to CONF-14093.

Rich Text Editor

Context menus are now available in the RTE (Agnes' Shipt 9 project). Just right click in the editor! They are especially useful for table editing.

Notifications which show just relevant changes

When watching a page in Confluence, you normally get all the content whenever something changes. This isn't so useful, so we've added the option to get just the changes to the content emailed to you.

Just check the "Show changed content" box in Email Preferences. If enough people find this useful we are considering enabling it by default.

Viewing changes for content has also been similarly improved. By default, unchanged content is hidden and you can click the ellipsis to expand it.

Both improvements rely on 20% work done by David Taylor to dramatically improve the diffing algorithm used for Confluence content.
20% projects

Batching web resources

Confluence is now using Atlassian Plugins 2.2. beta4, which supports batching of web resources. This should result in a performance improvement, with fewer requests to the server for jss/css files.

See [here] for more details.

Roundtrip bugs

Yes, it's lame, but DonW fixed a couple of particularly annoying round-trip RTE bugs in his 20% time:

- Images no longer get attached to the previous paragraph
- Emoticons can all be escaped in wiki markup, and will automatically be escaped when going from Rich Text to wiki markup.

Known issues

 Plenty of known bugs. Check out JIRA.

Release Notes 3.0-m4 ("Milestone 4")
Milestone release advisory

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Who should upgrade?

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Upgrade Procedure

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Downloads

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Issues resolved or improved in this milestone since Confluence 3.0 Milestone 3

Experimental Macro Browser

The Macro Browser is now available in the wiki markup editor, however it is currently not in a state for proper use. It is quite buggy and has been included for QA and the dev team, so please do not raise any issues against it yet.

Community

User Hover Fixes

A lot of outstanding issues with User Hover were fixed for m4.

First Cut of User Profiles

The profile tabs have been rearranged into a more intuitive order, with general and email preferences moved to a separate "Settings" tab:
Additional fields have now been added to your user profile.

Performance Improvements

We did the following small performance improvements:

- Caching/Queries optimized for page lookups (CONF-14273)
- Adjusted cache sizes (CONF-14294)
- Optimized access to attachments (CONF-14342)
- Less cache replication in a cluster (CONF-14339)

Although the performance improvement hasn't been as dramatically as in M2, but we still see a solid trend towards shorter and less varying response times. The overall performance improvement is around 10%-15% with more to come in the next milestones.

Known issues

- Performance issues with frequently updated attachments. One of the performance tweaks in M4 can cause issues if you have attachments with thousands of versions. (CONF-14422)
- The Macro Browser is very fresh and contains many bugs.

Check out JIRA for the full list of known bugs

Release Notes 3.0-m5 ("Milestone 5")
Milestone release advisory

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**Upgrade Procedure**

Follow the normal upgrade instructions to upgrade from Confluence 3.0.x to this release. *We strongly recommend that you backup your confluence-home directory and database before upgrading!*

**Downloads**

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Issues resolved or improved in this milestone since Milestone 3

**Macro Browser (in Markup Editor)**

The Macro Browser is now available in the wiki markup editor! Features are listed below.
Browse Macros

You can now browse through a list of categorised macros and select a macro to insert. Macros that do not have categories define can be found in the 'All' categories tab. To insert a macro, you can either double click on the macro or click it once and then click the 'Next' button.

Insert Macro

For macros that have parameter metadata defined, you will see parameter labels and descriptions with the appropriate input fields. So far we are handling boolean and select-one-from-list type parameters. Everything else is considered a string. Please note that there is no field validation.

For macros that don't have the parameter metadata defined, you will see a single input field for the macro parameters and its notation guide help (if any) below.

Preview Macro

A default preview will be loaded only if the macro doesn't have required parameters. The preview can be updated by clicking on the 'Preview' button. This button location will change in the future.

Edit Macro

You can also edit a macro by placing your cursor in the start tag of a macro and then clicking the Macro Browser icon. It should display the 'Insert X Macro' page with it's parameters populated.

Known Issues

- Macro summary and parameter descriptions are currently under review by the tech writing team, so please ignore grammar/spelling/crappy English for this milestone.
- The macro icons (displayed in browse macros) are temporary. Hopefully we will be able to get much sexier icons.
- Some macros falsely declare they have bodies (e.g. gallery) so you may see some unnecessary body text areas.

Community

Several major community features have their debut in this milestone.

Status

This milestone, we are releasing the first version of the Status feature. There is still a lot of work to be done, it's not particularly polished but we want your feedback.

First of all, set your status from the user menu, where you'll get a dialog box allowing you to enter your new status.

You can see your status and others' statuses from user hover, under the "Status List" option in user profiles, the "Favourite People" tab (see below), personal space sidebar (see below).

Follow

Marking another user as "favourite" is now meaningful. In milestone 5, you'll be able to get a list of statuses from the people you follow.
Check out the "Favourite People" tab in your user profile – you can get there via your user menu.

It will show you who you're following, and who's following you. You can also quickly follow someone with the user search, and see a list of status updates from the people you follow.

**Personal Space Sidebar**

With this release, we now have some structured form of a user profile for every user. On the right of any personal space*, there'll be a sidebar with various details of the person's space you're viewing. Don't worry, you can easily collapse the sidebar and it'll shift out of sight. Once you collapse the sidebar, it will stay collapsed for all personal spaces for the duration of your login session.

Here's what it looks like:

We plan to put more information on the sidebar, at the moment it looks a little silly if the user doesn't have a status set and hasn't filled out any of the extra profile fields we added last milestone.

This only works in the Default Theme.

**Known Issues**

- There are a few known issues with the Community work, the biggest thing is what you see at the moment is a first cut of the functionality, we plan to "sexy" it up a bit and make the status and profile pages look a lot nicer.
- You will also notice that when you favourite another user you will need to wait for the index to be flushed for your changes to be applied. This will be improved in a future milestone.

**Bugfixes**

There are two relevant bug fixes in this milestone:

- Configuration to prevent anonymous users accessing user profile information (CONF-13276)
- Cannot insert links with Unicode characters in the URL (CONF-12707).

**Engine Room**

The Engine Room team has delivered one more performance improvement and a significant security improvement this milestone:

- Attachment retrieval should cache attachment IDs (CONF-14422)
- Anti-XSS mode is now enabled by default (CONF-12573).

We also fixed the regression in the previous milestone (M4) where pages with thousands of attachment versions brought all attachment retrievals to a grinding halt.
Release Notes 3.0-m6 ("Milestone 6")

Milestone release advisory

- Do not use this release to upgrade your production systems.

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Who should upgrade?

- Please note the following
  - **Development releases are not safe** — Development releases are snapshots of the ongoing Confluence development process. As such:
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    - Features in development releases may be incomplete, or may change or be removed before the next full release.
  - **No upgrade path** — Because development releases represent work in progress, we can not provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code.

Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too, and all of our milestone releases even have been performance-tested for a while.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Additionally, our performance-testing and compatibility testing for databases and application servers is not done to the full extent. So, for example, a milestone release might behave well on a small installation but show severe problems when subjected to many users.

**Upgrade Procedure**

Follow the normal upgrade instructions to upgrade from Confluence 3.0.x to this release. *We strongly recommend that you backup your confluence-home directory and database before upgrading!*

**Downloads**

All development releases are available from Development Releases on the Atlassian website.

Summary

This milestone is mainly about polishing features that were introduced previously, and a bit of back-end work for security and performance. We have fixed plenty of bugs of M5 too, and will keep fixing for M7.

Known issues

Given the recent work that has been done to improve "recent updates" (CONF-14434), updates shown on the dashboard will be affected shortly after the upgrade. You may notice that only changes made _after_ the upgrade will show. This will be rectified as soon as the index is rebuilt.

**Improvements and new Features**

**New PDF Export**

- This milestone contains the first cut of the Improved PDF export, which also give you more control over the conversion process by allowing you to use CSS. Please find the detailed documentation on CAC. CONF-2079
There are still plenty of known bugs with the new PDF, we included it a bit early to be able to get feedback on the CSS-styling process, not for beta-testing purposes...

Engine Room

The ER team has implemented several more important fixes and improvements in this milestone:

- **supportability** - integrated thread-dump tool in the administration screen (CONF-12395)
- **security** - editing comments in wiki markup is no longer double-HTML-escaped in anti-XSS mode (CONF-14601)
- **cluster performance** - avoid unnecessary updates to distributed cache to improve cluster performance (CONF-14657)
- **general performance** - improve performance of retrieving many attachments, like on the attachments page (CONF-14422)
- **front-end performance** - add caching headers to attachments rendered with a "?version=x" parameter (CONF-8034).

Office Connector

- When launching an external editor from Confluence, you don't have to login again. CONF-14705
- You can now monitor what is in the conversion queue and what is actually being converted CONF-14707

Macro Browser

The following bugs have been fixed:

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (0 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
</tbody>
</table>

Status and Follow

The following bugs have been fixed:

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (0 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
</tbody>
</table>

Bugfix-team

- It's safe to use Sections and Columns in the RTE again. (CONF-13823, CONF-14282)

Release Notes 3.0-m7 ("Milestone 7")
Do not use this release to upgrade your production systems.

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Upgrade Procedure

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Downloads

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Summary

The Confluence team is proud to present another incremental milestone, called M7. We are currently aiming at shipping M8 in two weeks and M9 in four weeks. M9 will be almost feature-complete and therefore similar to a beta release. After a couple of betas and release candidates we intend to ship Confluence 3 in late May. As always, things can still change a little, so there is no fixed date. But if you are a plugin developer, you want to have your plugin tested well before the big marketing buzz kicks in. We try to remain as backward-compatible as we can for Confluence 3, but if something slipped through the cracks we need your feedback, and we need it now. So do have a look at this milestone release and tell us what you think.

Macro Browser and Rich Text Editor

You can now choose the kind of right-click context menu you want in the Rich Text Editor. A new button on the toolbar, handily called "Toggle context menu", toggles between the browser's default context menu and our TinyMCE one.

You can also tell the TinyMCE context menu that it isn't wanted via the "Disable context menu" option.
Macro Browser search has been improved and now accepts multiple words (order not important) and camel-casing (matches either case in consecutive words).
The filtering logic has been added to AUI as a new commented method of AJS, "filterBySearch" - feel free to use it.

Community Improvements

This milestone shows a number of improvements from the Community Team.

Profile Layout

In the spirit of making the profile page actually page you want to visit, it’s been given a facelift and has now come closer in line with out standard UI.

It also includes your current status is clearly visible at the top of the profile page.

For now you have a Status Updates section on the right hand side of the profile page, the next milestone will see this will be replaced with the new Recently Updated Macro (see below) so it will include other kinds of activity as well. It’s here now because otherwise you wouldn’t have anywhere to delete or clear your status, eventually will be moved to another tab and/or page.

User Status Updates

- Delete And Clear Status
  You can delete status entries from the list on the right. Someone hacks in your status, you can now always delete it. You can also clear your current status, so any location showing your current status will show nothing. This won’t remove it from your history but your current status will now be considered cleared.

- Status Icon
A new status Icon was introduced by the Design team. The lightbulb has been replaced with some sexy quotes (”).

- **Immediate Updates**

  Updating your status will use Javascript-Magic to update your status on the current page, giving you immediate feedback, with no need to refresh the page.

**Recently Updated Macro**

This is the first milestone that shows the hard work that David Loeng and Chris Broadfoot have been doing with our Recently Updated Macro.

To build up activity in the old recently updated macro, the process would simply query the lastModified date of all the relevant content, then sort it accordingly. The side effect of this was, if two people edited the same page, you would only see the one edit in your list. Not only that, if you wanted to follow a certain user's activity and someone edited a page after them, you wouldn't see any update.

We've worked very hard on this and changed the way Confluence stores changes to documents and now tracks **all changes** every time a document, page, profile, status, anything, is updated.

This screen shot shows two edits from two different people on the same document, something that wasn't previously possible. These changes were critical for implementing a proper follow feature for 3.0.

**Bug Fixes**

A number of bugs have been fixed by the community team, here are a list of some of the main ones:

- CONF-14773 Expanding and collapsing the personal sidebar will no longer affect the comments on that page/blogpost.
- CONF-14870 Delete links for user status items are now properly integrated with the new XSRF protection and actually work.
- CONF-14778 Printing pages from a personal space no longer includes the sidebar

Other bug fixes:
- CONF-14689 Comment edits now send notifications

Plus a number of other fixes.

**PDF export team**

Removed the PDF Export++ option. The new PDF export is what you get when you select just **PDF Export**. The old PDF export was removed.

Added javascript to the space export tree that will select/deselect all descendants of the clicked node. This change applies to all export
formats not just PDF. This should save hours for the Atlassian Techwriting team.

**Bugs fixed**

CONF-14906 - Fonts are too large in the page index macro when exported to PDF
CONF-14905 - Note macro missing colored background in PDF export
CONF-14902 - Content by label macro looks ugly when exported to PDF
CONF-14900 - Bookmarks macro is producing really large font when exported to PDF
CONF-14899 - Attachments macro is showing velocity junk when exported to PDF
CONF-14898 - Panel macros (warning, note, info) could use some extra padding in PDF export
CONF-14897 - Spaces macro renders as a single bullet item list when exported to PDF
CONF-14895 - Recently-used-labels macro with a table style doesn't look like a table at all
CONF-14894 - Blockquote text too large in pdf export

**Release Notes 3.0-m8 ("Milestone 8")**
For all production use and testing of Confluence, please use the latest official release. This release is a public development release ("Milestone") leading up to Confluence 3.1, which will be probably shipped in Q4/2009. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we're up to.

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Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 3.0.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

Downloads

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Summary

The Confluence team is excited to bring you our latest milestone release: Confluence 3.0-m8, "Milestone 8". This release includes a huge amount of improvements to the community features, additional performance improvements and many bug fixes.

Community

Be sure to check out the great improvements in Confluence's new community features:

- Improved Activity list on Profile Page - The user status list has been moved to its own tab and the new Recently Updated Macro has been put in its place. It's also been given a face lift and fits nicely into the profile page. Facebook eat your heart out.
- Status list moved to separate tab with pagination - The user status list now has a proper location, it's own tab. This tab is the central place where you manage and view your historical status updates. Links to delete old status updates will be found on this tab.
- Each status item has its own page so you can link to a status - You can now create links to old status objects allowing for historical references as each status can be displayed on its own page.
- Personal space sidebar has been updated to include an activity list and your follower information - The personal space sidebar is coming along nicely and looks great with the new recently updated macro and the follow information.
- Adding a follower on your Favourite People tab (or using the hover) will refresh the page and update the list immediately - We changed how the follower information was looked up as to not use the lucene index and hooked into the hover so most changes on this page will trigger a refresh and the updates will be seen immediately! No more wondering if your new follower actually worked
• Those extra fields on your User Profile page are now run through the wiki renderer allowing links and simple formatting.

Macro Browser

The macro browser team spent the past two weeks working behind the scenes on placeholders for the rich text editor. Unfortunately, this change is too complex and risky to get into 3.0, so we have just a few small improvements in the macro browser this milestone:

• More parameters and documentation are available for macros in the macro browser. We now have 100% of the bundled macros with documented parameters, and will be just fine-tuning the documentation for the remainder of the release.
• The Office Connector (viewfile) macro shows up in the macro browser as separate macros for Word, Excel, PDF and Powerpoint documents.

PDF Export

Balsamiq Mockups and several other complex macros now export to PDF correctly (CONF-14792).

⭐ Why don't you try out the new PDF export right now? On any page, go to Tools, Export as PDF.

Engine Room

The Engine Room team implemented several important performance improvements for this milestone. Specifically:

• Searching should be faster and not blocked by index updates every minute. This should also make the dashboard and macros that use the search index slightly faster. CONF-7749, CONF-14803
• Image attachments embedded in a page are now cached by your web browser. This should make pages with lots of images faster to load and reduce the load on the server. CONF-8034
• Upgraded the WebDAV plugin to 2.0-beta2. This plugin has been released to the community for a while now, to very positive response. It should be more compatible with more clients now, though there is still some special configuration needed for Windows Clients. Read the documentation about client-configuration in order to test it.

20% Projects

Administrators can now customise the size of Confluence's caches from the web interface. Previously, you needed to edit an XML file and restart Confluence whenever you wanted to adjust the caches. This addresses one of the most popular supportability feature requests in the Confluence JIRA project, with 34 votes: CONF-12836.
Bugs Fixed

Several macros which were broken in M7 are now fixed: `{flowchart}`, `{rsvp}` and `{pagetree}`. CONF-14615, CONF-14829, CONF-14581

The Gliffy plugin and Beanshell macros now work with Confluence 3.0; previously customisation was required to get them to work properly with our latest development versions.

Below is a complete list of issues resolved in Confluence 3.0-m8.

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

### JIRA Issues (1 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONF-15102</td>
<td>Allow macro Body Text label to be overridden and add a description</td>
<td>David Taylor [Atlassian]</td>
<td>David Taylor [Atlassian]</td>
<td>⚠️</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Apr 05, 2009</td>
<td>May 16, 2009</td>
<td></td>
</tr>
</tbody>
</table>

**Release Notes 3.0-m9 ("Milestone 9")**
## Confluence 3.0 Documentation

### Milestone release advisory

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### Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 3.0.x to this release. **We strongly recommend that you backup your confluence-home directory and database before upgrading!**

### Downloads

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### Summary

We are one week away from feature freeze, so this is the last major milestone before we enter beta next week. We are still working on some wording, on some plugin upgrades, and a few UI tweaks, but M9 is pretty much how Confluence 3 will look like. From now on, it's mainly about fixing up non-critical bugs and doing code reviews. Many Code reviews! 😊

Enjoy:

### Community

Followed Users and Favourite Spaces

The terminology has been cleaned up and made consistent across the application. If you want to see what a user is doing you follow them, if you want to see what happens in a space, you mark that space as favourite. You can mark a personal space as favourite, and this is independent of following the user who owns the space.

One area we still want to improve is the 'User Follow' menu item and profile tab, which needs a better name.

Follow Tab RSS and Design Improvements
You can now get an RSS feed on any user's 'User Follow' tab. This feed will include all activity of the users followed by that person. This is a great new way of monitoring content on the Extranet.

We've redesigned the follow tab to highlight the activity information more and handle large lists of followers. We also added some clarifying text to this tab to better describe the different sections of this page.

There is now a maximum number of followers shown on this page, and separate pages to show the complete list. This addresses the performance and usability problems discovered in the previous milestone when you had a large number of followers or people following you.

Profile Page Updates

The layout of the profile page has been changed to try to improve the visibility of the activity. This puts the user's personal information over on the right hand side of the page.

On the left hand side, we now have new links to follow a user and favourite their space.

Update User Status Permission

A new global permission was introduced to give system administrators control over who can use the user status feature.

If the permission is turned off for a user (or their group) then they will not have the ability to set their user status, nor will they have an 'Status Updates' tab in their profile.

Macro Browser

Macro Browser in the RTE

The Macro Browser is now finally available in the Confluence rich text editor (RTE)! It will assist you in inserting and editing macros, without having to understand the wiki markup.

Editing a macro can be done by placing the cursor in the start or end tags of the macro wiki markup. If you have context menus enabled, you will also see a new option for insert/editing macros.

Upgraded Macro Icons

Thanks to Stephen, we have even better icons for the macros in the macro browser. Check 'em out!
AUI 1.0

Confluence is now using the first release of AUI, 1.0.

PDF Export

Many bug fixes have been done for the new PDF export:

- CONF-15220 - PDF Export converts a bulleted sublist into a numbered sublist
- CONF-15148 - Follow macro should not include the 'Add' action when exported to PDF
- CONF-15042 - PDF Space Export text uses US spelling instead of Australian
- CONF-15038 - PDF Export from a page with non-default theme is trying to use the old method, and so it fails with an error
- CONF-14906 - column and section macros render differently in PDF export when they have borders
- CONF-14904 - IM presence macro shows a roque nbsp when exporting to PDF
- CONF-14901 - The PDF export doesn't recognize all literal colors when used in the color macro
- CONF-14889 - PDF Export from the Info pages is trying to use the old method, and so it fails with an error

Engine Room

Confluence has been upgraded to the latest releases of Plugins 2 and SAL.

Release Notes 3.0-rc1 ("Release Candidate 1")

Hi everyone,

we are approaching the 3.0 release date. We have built our first release candidate, and we hope to turn this into the final release unchanged soon.

There have been a few changes since the last two betas: The translations are now up to date, more icons have been added to the macro browser, and we have tweaked a few screens, like the profile page. And of course we have fixed dozens of bugs (see JIRA URLs below). We are very pleased with the quality of the release and we are currently not aware of any showstoppers or critical issues. Chances are that the final release will be just a rebranded RC, however you should still not use the RC on production systems, since we still have some final testing planned. We encourage you to use it for staff training purposes and for your upgrade testing though, since no more UI changes or changes to the upgrade process are scheduled.
Milestone release advisory

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Issues resolved between Beta2 and Beta3: http://jira.atlassian.com/secure/IssueNavigator.jspa?reset=true&pid=10470&fixfor=14602
Issues resolved between Beta3 and RC1: http://jira.atlassian.com/secure/IssueNavigator.jspa?reset=true&pid=10470&fixfor=14625

Thanks for your feedback so far, it has helped us track down a few bugs, which will result in a smoother upgrade for everyone!

Cheers,
The Confluence Team

Release Notes 3.1-m1 ("Milestone 1")
Milestone release advisory

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Yay, we are back!

After 3.0 came out, we spent some time in bugfix-mode, then we had a 20% week, 2 devspeed weeks, and the last week was mainly spent planning the next release. So that's why there has not been much visible progress recently lately. Development on core 3.1 features has started, but in this milestone we mainly ship all the bugfixes we did for 3.0.1, some small improvements, and three 20% projects.

New Webstart Installer

We are trying something new. While we will provide the downloadable files too, we encourage you to try our webstart based evaluation installer. Visit http://webstart.atlassian.com/confluence-3.1-m1-r2/confluence.jnlp for a snappy installation experience.

New Native Mac Installer

When you go to the download section, you will notice a new DMG file. This contains our new native experimental Mac installer. Give it a try and tell us what you think. Instructions coming soon!

And here are all the cool features in M1 you will get.
Interactive "Get more"

Recently updated macros are now interactive. You will get a little "More" link to load new updates dynamically within the page. This small but awesome feature can also be found on your network page, and in the space's recent update tab. It doesn't screenshot too well, so try it out for yourself. Anyway here is what the macro looks like:

Recently Updated
- **Rename News to Blog Progress Page** updated by Brian Nguyen [view change] about 3 hours ago
- **Confluence Servers** updated by David Loeng [view change] about 3 hours ago
- **Rename News to Blog Post** updated by Brian Nguyen [view change] about 3 hours ago
- **Confluence Without Coherence - Chapter One** commented by Matt Ryall about 4 hours ago
- **Confluence Without Coherence - Chapter One** commented by Richard Wallace about 10 hours ago

And here is what the network tab looks like:

- **Paul Curren**
  - **Confluence 3.1-m1 Milestones Notes DRAFT** updated yesterday at 5:58 PM [view change]
- **Per Fraegemann**
  - **Confluence 3.1-m1 Milestones Notes DRAFT** commented yesterday at 5:42 PM
- **Jens Schumacher**
  - **Developer Relations Roadmap Proposal** updated yesterday at 5:14 PM [view change]
- **Samuel Le Berrigaud**
  - **Idea has gone bonkers** commented yesterday at 4:56 PM

Caveats:

- We feel that the link is a bit small and can be mistaken for a normal link. Especially on the static pages (network, updates in space) it makes sense to make the button much larger and more prominent. We will work with Design to find a solution
- The link also needs to go into the profile page (so you can see more updates on everyone's stream), and into the status tab. Dave will add that soon

This is a Dave Loeng 20% production

Draft diffs and visibility

Always wondered what your old drafts were about? Or when a draft is being saved, what part of that huge document you're editing has actually changed? Well, now you can, thanks to DraftDiffs.

View the diff right from the edit page:
View what your old drafts are about from the drafts overview page:

**Per Fragemann**

This page lists all your drafts. A draft is created when you make changes to a page. Should you be prevented from saving your changes, you can resume editing the draft version here.

<table>
<thead>
<tr>
<th>Title</th>
<th>Last Saved Date</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is my sample page</td>
<td>less than a minute ago</td>
<td>View Changes</td>
</tr>
<tr>
<td>Links Browser Spec</td>
<td>19 days ago</td>
<td>View Changes</td>
</tr>
<tr>
<td>Promote your blogpost</td>
<td>25 days ago</td>
<td>Resume Editing</td>
</tr>
<tr>
<td>secret test page</td>
<td>20 days ago</td>
<td>View Changes</td>
</tr>
<tr>
<td>Leave planning Confluence</td>
<td>35 days ago</td>
<td>View Changes</td>
</tr>
<tr>
<td>RTE Placeholder Alternatives</td>
<td>104 days ago</td>
<td>View Changes</td>
</tr>
<tr>
<td>Community for Confluence 3.0</td>
<td>113 days ago</td>
<td>View Changes</td>
</tr>
<tr>
<td>Confluence 3.0-m6 Milestone Notes</td>
<td>121 days ago</td>
<td>View Changes</td>
</tr>
<tr>
<td>Problems with specific macros</td>
<td>155 days ago</td>
<td>View Changes</td>
</tr>
<tr>
<td>Secondments + Confluence</td>
<td>162 days ago</td>
<td>View Changes</td>
</tr>
<tr>
<td>Email? That is so 1995...</td>
<td>238 days ago</td>
<td>View Changes</td>
</tr>
<tr>
<td>Home</td>
<td>240 days ago</td>
<td>View Changes</td>
</tr>
</tbody>
</table>

Which takes you to this screen:
Known issues: Annoying Javascript alert when there are no changes at all. This feature unfortunately also highlights our roundtripping bugs... ahem...

This is a Brian Nguyen 20% production

Small Improvements

Edit loss warning

Whenever you are in edit mode and decide to leave the page or close it, you will now get a warning popup. This is especially useful when writing comments (no drafts...) and for technically challenged people who don’t understand drafts in the first place. As raised in the JIRA issue, we may have to provide a setting to disable these warnings (it can be a bit annoying if you like to change your mind often), so watch CONF-16075 for updates. The idea has been raised that we may only want this feature for comments when no drafts are being saved. We will dogfood this over the next few weeks, and see how we like it or not.
Gradient
This is just an experiment, probably not shipping as a default for 3.1, but worth a look. Do you like it?

Dashboard › People › Per Fragemann › Network

Per Fragemann

More options to search for by time

We added two more options to filter by time: Last 6 months, Last year, Last 2 years, and fixed the calculation for today/yesterday by making it work by 24h instead of what the server thinks is midnight. 48h obviously encompasses the last 24 hours two, which was awkward in the old system, where yesterday would really just mean yesterday, but not today.

Where
All Spaces

What
All Content

When
Any date
Any date
Last 24 hours
Last 48 hours
Last week
Last month
Last six months
Last year
Last two years

Plugin points in the editor
We were approached by a developer who wants to write a spellchecker plugin for Confluence, so Agnes volunteered to pluginpointinize the editor. You won't see anything right now, but it will make many plugin authors happy. Read the documentation for how to write plugins for the editor.

"Link to this page" Dialog
In order to make Tiny Links more accessible, we added a new Menu option which opens a new dialog, which shows the three ways to link to a page. Full URL, TinyURL, and Wiki Link. Probably the Full URL is not as important, but the dialog looked a bit unbalanced, and it makes it clearer that both URL's are equivalent.
Selecting the menu opens up this dialog, with the Tiny Link conveniently selected.

We didn't rename Tiny Links to Permalinks, as has been suggested. What do you think, should we?

This is the final Chris Broadfoot 20% production.

**Release Notes 3.1-m3 ("Milestone 3")**
Milestone release advisory

Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the latest official release. This release is a public development release (“Milestone”) leading up to Confluence 3.1, which will be probably shipped in Q4/2009. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we're up to.

Who should upgrade?

Please note the following

- Development releases are not safe — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- No upgrade path — Because development releases represent work in progress, we can not provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code.

Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too, and all of our milestone releases even have been performance-tested for a while.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Additionally, our performance-testing and compatibility testing for databases and application servers is not done to the full extent. So, for example, a milestone release might behave well on a small installation but show severe problems when subjected to many users.

Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 3.0.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

Downloads

All development releases are available from Development Releases on the Atlassian website.

Maintenance mainly

Milestones 2 and 3 don’t have many feature-changes, because a lot of the development happens on branches and under the hood. We have been doing some UI polish, but nothing large is to be seen yet.

We did however split up resource-loading, so CSS is now at the top of the page, and JS is at the bottom, resulting in faster page views. If you are a plugin author using resource bundles and JS/CSS (which you should, obviously), then definitely check out this milestone to see if your plugin works as expected.

Stay tuned for M4 in about two weeks, which will show off some nice new feature improvements.

Cheers,
Per and the Confluence development team

Confluence 3.1 Deprecated Code Cleanup

This document contains information for Confluence plugin developers regarding changes to the Confluence codebase in the upcoming 3.1 release.
Confluence 3.1 Deprecation Cleanup

Every major Confluence release, we clean up the codebase by removing classes and methods that have been deprecated in previous releases. These changes were included in the Milestone 2 release of Confluence 3.1. We strongly encourage plugin developers to test their plugins against our milestone releases.

If the removal of these classes or methods causes you significant problems maintaining your plugins, please let us know. We will work with you to find a workaround, or possibly reinstate the code before the final release. (Note that the longer the code in question has been deprecated, the less inclined we will be to replace it. Some of the stuff we’ve removed here will have been giving you compiler warnings for years.)

More information on our guidelines for removing deprecated code: Deprecation Guidelines

Changes in Confluence 3.1 Milestone 2

For the sake of brevity, the com.atlassian.confluence part of package names has been omitted.

Removed Classes

<table>
<thead>
<tr>
<th>Class</th>
<th>Deprecated Since</th>
</tr>
</thead>
<tbody>
<tr>
<td>.pages.BreadcrumbsManager</td>
<td>2.7</td>
</tr>
<tr>
<td>.pages.DefaultBreadcrumbsManager</td>
<td></td>
</tr>
<tr>
<td>.plugin.descriptor.web.conditions.user.UserHasHistoryCondition</td>
<td>2.8</td>
</tr>
<tr>
<td>.util.VelocityUtils</td>
<td>2.0</td>
</tr>
<tr>
<td>.util.PageComparator</td>
<td>2.3</td>
</tr>
<tr>
<td>.util.ResourceManager</td>
<td></td>
</tr>
<tr>
<td>com.atlassian.confluence.util.DefaultResourceManager</td>
<td>2.8</td>
</tr>
<tr>
<td>.event.EventListener</td>
<td></td>
</tr>
<tr>
<td>com.atlassian.confluence.event.DeprecatedEventListenerWrapper</td>
<td>2.3</td>
</tr>
<tr>
<td>.servlet.download.ResourceDownload</td>
<td>2.10&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>.renderer.radeox.macros.include.AbstractHttpRetrievalMacro</td>
<td>2.7&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>.macro.macros.AbstractHtmlGeneratingMacro</td>
<td>2.7&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>bucket.search.EntityObjectDateExtractor</td>
<td>1.4</td>
</tr>
<tr>
<td>bucket.container.ContainerManager</td>
<td></td>
</tr>
<tr>
<td>bucket.container.ContainerContext</td>
<td>2.3</td>
</tr>
</tbody>
</table>

<sup>1</sup> While the ResourceDownload class was only deprecated in 2.10, it could only ever be used in the context of the ResourceManager which was deprecated earlier. It is very unlikely that code exists that relies on one but not the other.

<sup>2</sup> These Radeox macros were superseded by the equivalent V2Renderer macros in Confluence 1.4, but only marked as deprecated in the 2.7 release.

Removed Constants

<table>
<thead>
<tr>
<th>Class</th>
<th>Constant</th>
<th>Deprecated Since</th>
</tr>
</thead>
<tbody>
<tr>
<td>.search.lucene.extractor.PageContentEntityObjectExtractor</td>
<td>PAGE_REAL_TITLE</td>
<td>2.8</td>
</tr>
<tr>
<td>.security.SpacePermission</td>
<td>ADMINISTER_CONFLUENCE_PERMISSION</td>
<td>2.7</td>
</tr>
<tr>
<td>.setup.Bandana.ConfluenceDaoBandanaPersister</td>
<td>GLOBAL_BANDANA_CONTEXT</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Removed Methods

<table>
<thead>
<tr>
<th>Class</th>
<th>Method</th>
<th>Deprecated Since</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>.core.ConfluenceActionSupport</td>
<td>ThemeHelper getGlobalHelper()</td>
<td>2.0</td>
<td>Support for pre-2.0 themes</td>
</tr>
<tr>
<td>Class/Method</td>
<td>Version</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>ThemeHelper.getSpaceHelper()</td>
<td>2.0</td>
<td>Support for pre-2.0 themes</td>
<td></td>
</tr>
<tr>
<td>.core.ContentEntityManager.getRecentlyModifiedEntities(int maxResults)</td>
<td>2.0</td>
<td>use the SearchManager for this kind of query</td>
<td></td>
</tr>
<tr>
<td>.core.ContentEntityObject.getRealTitle()</td>
<td>2.8</td>
<td>use getDisplayTitle() instead</td>
<td></td>
</tr>
<tr>
<td>.core.ContentPermissionManager.getInheritedViewContentPermissions(Page page)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.core.persistence.ContentEntityObjectDao.getRecentlyModifiedEntitiesByType(ListQuery query, int firstResult)</td>
<td>2.8</td>
<td>use the SearchManager for this kind of query</td>
<td></td>
</tr>
<tr>
<td>.importexport.ExportContext.getDateFormatter()</td>
<td>2.8.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.pages.AttachmentUtils.getOldContainingFolder(Attachment attachment)</td>
<td>2.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.pages.actions.ViewPageAttachmentsAction.getAttachmentHelper</td>
<td>2.8</td>
<td>use getWebInterfaceContext()</td>
<td></td>
</tr>
<tr>
<td>.plugin.editor.Editor.getEditorSpecificCss()</td>
<td>2.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.security.ContentPermission.isGroup()</td>
<td>2.4</td>
<td>use getGroupName()</td>
<td></td>
</tr>
<tr>
<td>.security.PermissionManager.isGlobalAdministrator(User user)</td>
<td>2.7</td>
<td>use isConfluenceAdministrator</td>
<td></td>
</tr>
<tr>
<td>.setup.BootstrapManager.isConfluenceHomeValid()</td>
<td>2.8</td>
<td>use SettingsManager</td>
<td></td>
</tr>
<tr>
<td>.spaces.SpaceManager.isValidSpaceKey(String key)</td>
<td>2.3</td>
<td>use Space.isValidGlobalSpaceKey</td>
<td></td>
</tr>
<tr>
<td>.spaces.SpaceManager.isValidPersonalSpaceKey(String key)</td>
<td>2.3</td>
<td>use Space.isValidPersonalSpaceKey</td>
<td></td>
</tr>
<tr>
<td>.spaces.SpaceManager.getPages(Space space, boolean currentOnly)</td>
<td>2.3</td>
<td>use PageManager</td>
<td></td>
</tr>
<tr>
<td>.spaces.SpaceManager.getBlogPosts(Space space, boolean currentOnly)</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.spaces.SpaceManager.getMail(Space space, boolean currentOnly)</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.user.PersonalInformationManager.getPersonalInformation(String username)</td>
<td>2.3</td>
<td>use getPersonalInformation(User user)</td>
<td></td>
</tr>
<tr>
<td>.user.SearchEntitiesManager.findGroups(TermQuery query)</td>
<td>2.8</td>
<td>use findGroupsAsList()</td>
<td></td>
</tr>
<tr>
<td>.user.SearchEntitiesManager.findUsers(Query query)</td>
<td>2.8</td>
<td>use findUsersAsList()</td>
<td></td>
</tr>
<tr>
<td>.util.GeneralUtil.format(Date date)</td>
<td>2.3</td>
<td>use $dateFormatter</td>
<td></td>
</tr>
<tr>
<td>.util.GeneralUtil.isGlobalAdministrator(Object notUsedAnyMore, User user)</td>
<td>2.0</td>
<td>use PermissionManager or $permissionHelper</td>
<td></td>
</tr>
<tr>
<td>getProperties(String resource, Class caller)</td>
<td>2.3</td>
<td>use PropertyUtils</td>
<td></td>
</tr>
</tbody>
</table>
Release Notes 3.1-m4 ("Milestone 4")

Milestone release advisory

Do not use this release to upgrade your production systems.

For all production use and testing of Confluence, please use the latest official release. This release is a public development release ("Milestone") leading up to Confluence 3.1, which will be probably shipped in Q4/2009. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we're up to.

Who should upgrade?

Please note the following

- Development releases are not safe — Development releases are snapshots of the ongoing Confluence development process. As such:
  - While we try to keep these releases stable, they have not undergone the same degree of testing as a full release.
  - Features in development releases may be incomplete, or may change or be removed before the next full release.

- No upgrade path — Because development releases represent work in progress, we can not provide a supported upgrade path between development releases, or from any development release to the eventual final release. Thus, it is possible that you will not be able to migrate any data you store in a Confluence development release to a future Confluence release.

Our milestone releases aim to provide plugin developers with an opportunity to see the latest changes in the code. Each milestone release has passed all our automatic tests, and has been used for one week on our official internal Confluence server. Most of the issues solved have been reviewed too, and all of our milestone releases even have been performance-tested for a while.

However, since our milestones releases are timeboxed (i.e. they get released every two weeks, no matter how far we have come implementing features and bugfixes), there is always a chance that we have new known bugs, which are scheduled to be fixed in the next milestone, or completely new bugs unknown even to us.

Additionally, our performance-testing and compatibility testing for databases and application servers is not done to the full extent. So, for example, a milestone release might behave well on a small installation but show severe problems when subjected to many users.

Upgrade Procedure

Follow the normal upgrade instructions to upgrade from Confluence 3.0.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

Downloads

All development releases are available from Development Releases on the Atlassian website.

Features!

As you may know, we have started a major hiring campaign, and this has slowed us down a little in the past few weeks. M4 however is back with a vengeance, boasting quite a few improvements. See for yourself

Editor Team

Move Page

We are reworking the way you can move pages around. It is now possible to move pages without editing the page, and you don't drag&drop anymore, you simply pick your parent in the tree. The next Milestones will allow you to search for a parent, and to use your recently viewed pages to move. At the moment, you can not re-order while moving the page (is this a problem though? What do you think?)
**Macro Browser**

David Taylor’s “Smart Fields” 20% project has been included in the Macro Browser although only for macro parameters that take single entries. i.e. if a macro takes a single username, space, or page then a suggestion drop down will be presented (See the screenshot). If a macro takes multiple usernames or spaces or pages then there will be no assistance.

Displays the excerpted contents from another page within the same space. [Documentation](#)

- Monkey Trousers
- Monkey Butter
- Monkey Island
- Barrel of Monkeys

David’s “Smart Fields” work also included some custom fields for the Office Connector viewfile macros to provide assistance with referencing the MS Office document you are trying to view. Instead of separate fields for space and page name these have been combined into a single field with a suggest drop down. The file name field has been converted to a select box showing the appropriate attachments for the selected page.

Embeds an Office Excel document (.xls) into your Confluence page. [Documentation](#)

- Page Name: Monkey Trousers
- File Name: editorteamtracking.xls
- Show Grid?

Worksheets Name

Name of worksheet to show. If not specified, the first worksheet is shown.

First Row

Number of first row to show, where the first row starts at 0. Example: to show the first 2 rows, use 1. If not specified, all rows are shown.

**Image Browser**

Some further progress has been made on the second “insert image” button on the RTE and wiki editor toolbars. You can now view and insert images that are already attached to the page.

- This dialog is still missing some obvious functionality such as image configuration options and image upload hence the reason the original dialog is still present for now.

Known Issue: You should also note that in the current milestone this new dialog is only working correctly when editing pages, not when creating new pages.
Engine Room

**JS/CSS rearrangements**

As you saw on our previous milestone notes, we have rearranged CSS to the top and JS to the bottom of the page, making the rendering experience better. This might have consequences for your macros/plugins, so DO have a look, and tell us what you think.

**REST**

The Confluence REST plugin (prototype API) has been added, however it will be disabled for this release. Hopefully we will be able to enable this in next milestone when the plugin is a bit more stable.

Some space level resources have been implemented.

**Getting a List of Spaces**

*Resource: /space*

*Description:* List all spaces (maximum page size of 50) visible to the current user

*Parameters:*

<table>
<thead>
<tr>
<th>start-index</th>
<th>start offset of the list</th>
</tr>
</thead>
<tbody>
<tr>
<td>max-results</td>
<td>maximum number of results to return</td>
</tr>
<tr>
<td>type</td>
<td>space type</td>
</tr>
</tbody>
</table>

*Result:*

```xml
<spaces>
  <space name="Demonstration Space" key="ds">
    <link rel="self" href="http://localhost:8080/rest/prototype/1/space/ds"/>
  </space>
</spaces>
```

**Looking up Details of a space**

*Resource: /space/[key]*

*Description:* Displays the details of the space identified by {key}

*Parameters:*

| expand | set expansion options for children elements |

*Result:*

```xml
<space name="Demonstration Space" key="ds" expand="children">
  <link rel="self" href="http://localhost:8080/rest/prototype/1/space/ds"/>
  <children size="2"/>
  <home>
    <id>32799</id>
    <link rel="self" href="http://localhost:8080/rest/prototype/1/content/32799"/>
    <type>page</type>
    <title>Home</title>
    <url>/display/ds/Home</url>
    <children size="6"/>
  </home>
</space>
```

⚠️ Some of the names of the elements in the space details example are subject to change. The children element for example will likely be changed to something more appropriate (it refers to the top level pages of a space).

**Small Improvements Team**

Driving on the left shouldn't be so hard, so we've updated the left hand navigation panel.
Bugfix Team

Fixed multiple bugs. Most notably:
CONF-12864 - improved performance of PageNotFound action
CONF-9575 - fixed concurrency issue that was breaking reindexing job

Gadgets & Office 2007 Team

Word 2007 & Excel 2007

We added Word 2007 support for document import and the view-file macro, as well as Excel 2007 support for the view-file macro. We don't support PowerPoint 2007 for the view-file macro yet and can't index any Office 2007 documents yet. Work in progress.

Support for importing other document formats

You can now import RTF and ODT files in addition to DOC and DOCX.

Gadget Macro

We are happy to introduce the new gadget macro! It's currently not very usable as we don't have any UI yet to change the user preferences for a gadget, which means you have to enter them manually.

Example Markup:

```
{gadget:url=[baseurl]/rest/gadgets/1.0/g/com.atlassian.confluence.plugins.gadgets:gadget-search/gadgets/gadget-search.xml}{gadget}
```

Jira chart gadget and Confluence QuickNav gadget on a Confluence page:
QuickNav gadget

We are also stoked to show off our first Confluence gadget which can be embedded in other gadget containers. The gadget URL is:

```
[baseurl]/rest/gadgets/1.0/g/com.atlassian.confluence.plugins.gadgets:gadget-search/gadgets/gadget-search.xml
```

Unfortunately you can't embed that gadget into iGoogle or GMail yet, because we have to upgrade to a newer version of the OAuth plugin first. This will work starting in 3.1-m5.

Gadget Directory

For every gadget you want to embed on a page, it needs to be added to the gadget directory first. This is to make sure you can't just embed any third party gadgets because those might contain malicious JavaScript which will then be executed as coming from the same security domain as Confluence.

OAuth Integration

We have also integrated the OAuth admin plugin which allows you to configure your consumer information as well as adding OAuth consumers and service providers. Detailed documentation will be available on CAC in the future.

20% and miscellaneous

Thumbnail Dialogs

Thumbnail images previously opened the full image in a new popup window, when clicked. Now clicking on a thumbnail opens the image in a fancy dialog (same as the image gallery).

Sprite Image for Macro Browser

On the edit page, the macro browser is built up in the background with its pretty macro icons. Although the macro icons are cached, there are quite a number of requests made on a cold browser cache (we have 52 macro icons, so 52 requests are made just for the macro browser). This has been reduced to one request by generating a sprite image for all the icons and using it with css and background-image positioning. hod has been added for macros to more clearly define their desire to be kicked out of paragraphs, and code macros do that. This change is still awaiting review, so it may be temporary.

AUU upgraded to 1.2.1!

Release Notes 3.1-m5 ("Milestone 5")
Milestone release advisory

Do not use this release to upgrade your production systems.

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This release is a public development release ("Milestone") leading up to Confluence 3.1, which will be probably shipped in Q4/2009. Development releases are a snapshot of our work in progress, allowing our customers and especially plugin-developers to see what we're up to.

Who should upgrade?

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Additionally, our performance-testing and compatibility testing for databases and application servers is not done to the full extent. So, for example, a milestone release might behave well on a small installation but show severe problems when subjected to many users.

**Upgrade Procedure**

Follow the normal upgrade instructions to upgrade from Confluence 3.0.x to this release. We strongly recommend that you backup your confluence-home directory and database before upgrading!

**Downloads**

All development releases are available from Development Releases on the Atlassian website.

**Gadgets & Office Team**

**Gadgets in the Macro Browser**

Want to embed one of those fancy new JIRA gadgets into your page? This has become really easy with the new Macro Browser integration. Just have a look in the "External Content" category to find available gadgets. Confluence comes with the Confluence QuickNav gadget by default, but the administrator can add as many gadgets as you like.
**Configure your JIRA gadgets in the Macro Browser**

You can now configure your JIRA gadgets using the macro browser. Just pick a JIRA gadget from the Macro Browser, configure it and add it to your Confluence page or blog post.

**Office 2007 support**

We've fixed a couple of minor issues with the Word 2007 integration. But the really good news is that we've started working on PowerPoint 2007 support! Nothing to see yet, but stay tuned.

**Dialogs Team**

The new image browsing dialog has been restyled and as a bonus now works in new pages and blogs.

**Engine Room**

The Confluence REST plugin (prototype API) has now been enabled for this milestone. In addition to spaces (in previous milestone) we now have an API for viewing Confluence content (pages, blogs, comments) with page children expansion supported.

Some very basic documentation can be found here: Prototype REST API

**Bugfix Team**

Fixed multiple bugs.

**Misc**

**Faster editor load**

With a few improvements we have made to the way we load TinyMCE, it should appear faster across all the browsers.

This is an Agnes Ro 20% production

**Prototype REST API**

This page documents the Prototype REST API supported for Confluence 3.1.

**Space**

**Getting a List of Spaces**

Resource: `/space`

Description: List all spaces (maximum page size of 50) visible to the current user

Parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>start-index</td>
<td>start offset of the list</td>
</tr>
<tr>
<td>max-results</td>
<td>maximum number of results to return</td>
</tr>
<tr>
<td>type</td>
<td>space type e.g. personal, all</td>
</tr>
<tr>
<td>expand</td>
<td>use 'space' to expand the spaces details of each space listed</td>
</tr>
</tbody>
</table>

Result:
Looking up Details of a space

Resource: /space/{key}
Description: Displays the details of the space identified by {key}
Parameters:

expand: use 'rootpages' to list all the root level pages of the space

Result:

```
<space name="Demonstration Space" key="ds" expand="rootpages">
  <link rel="self" href="http://localhost:8080/rest/prototype/1/space/ds"/>
  <rootpages size="2"/>
  <home>  
    <id>32799</id>
    <link rel="self" href="http://localhost:8080/rest/prototype/1/content/32799"/>
    <type>page</type>
    <title>Home</title>
    <url>/display/ds/Home</url>
    <children size="6"/>
  </home>
</space>
```

Content

Getting Content

Resource: /content/{id}
Description: Gets confluence content by id
Parameters:

expand: use 'children' to list all the child pages of the page

Result:

```
<content type="page" id="1180211" expand="children">
  <link rel="self" href="http://localhost:8080/confluence/rest/prototype/1/content/1180211"/>
  <title>Home</title>
  <url>/display/FOO/Home</url>
  <spaceKey>FOO</spaceKey>
  <children size="1"/>
  <body>This is the home of the FOO space.</body>
</content>
```

Release Notes 3.1-m6 ("Milestone 6")
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**Downloads**

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**Overview**

We are pretty close to Beta now, so if you are a plugin author and haven’t checked out the latest milestones of 3.1, you should do it now. The API won’t change much anymore, from now on it’s mainly bugfixing.

**Gadgets & Office Team**

**Editing user preferences of OpenSocial gadgets in the Macro Browser**

You can now edit user preferences of OpenSocial gadgets directly in the Macro Browser. Let’s take our all time favourite Hamster gadget as an example:
The UI will be slightly different in the next milestone, as we are going to move the form fields in the center of to the right hand side and make them part of the normal macro parameters.

**Gadget Directory**

You can now discover which gadgets are exposed by Confluence and can be used in other OpenSocial containers like JIRA 4 or iGoogle. There is a new "Gadget Directory" menu item in the browse menu which allows you to browse through the list of available gadgets.

**Dialogs Team**

There's a new "Insert" menu in the editor that helps you insert links, attachments, images and some default macros without having to already know which little button you're meant to press. (On IE the macro icons look odd, that's a bug and will be addressed soon)

**Help us choose the right macros!**

We picked a few macros that we thought users should know about, which are simple enough to use right away, and which represent a decent spread across a range of macros to stimulate your interest in the "add more" button. Our constraint is 5 macros max, since the menus gets too long on stupid good old IE6 on a 1024x768 screen.

Apart from the edit menu, some bug fixes of note: [Problems with links] in the RTE have been fixed; pressing escape in the new image dialog doesn't prevent it working next time; and move page works in IE8.

A lot of work has gone into the new page move dialog but it's not quite ready, so we didn't put it into M6.
**Engine Room**

A setting (under General Config) to serve the Javascripts back in the header has been introduced. This has been disabled by default for this milestone but will eventually be turned on as the default for 3.1. Reasoning behind this is that quite a few plugins have been broken and unusable by moving the scripts to the bottom of the page.

Work has been continued on the REST API however these were purely back end changes and the API itself has not changed since m5.

**Bugfix Team**

CONF-17171 - made selecting a page version on a page history view easier  
General bug fixing.

**Small Improvements**

New Login Screen design, which looks more consistent with other products like JIRA. Another step forward in terms of making Confluence look better.

**Known Issues**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

---

### JIRA Issues (20 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-17444</td>
<td></td>
<td>The move-page dialog can be cancelled with ESC but the move operation is still executed</td>
<td>Unassigned</td>
<td>Per Fragemann</td>
<td></td>
<td>Open</td>
<td>Unresolved</td>
</tr>
<tr>
<td>CONF-17441</td>
<td></td>
<td>Pasting text into RTE in Safari loses focus from the editor</td>
<td>Unassigned</td>
<td>Don Willis</td>
<td></td>
<td>Open</td>
<td>Unresolved</td>
</tr>
<tr>
<td>CONF-17413</td>
<td></td>
<td>TaskQueueFlushJob not longer uses abstract getQueueName method to set the queue name</td>
<td>Agnes Ro [Atlassian]</td>
<td>Roberto Dominguez</td>
<td></td>
<td>Open</td>
<td>Unresolved</td>
</tr>
<tr>
<td>CONF-17406</td>
<td></td>
<td>Changes to content properties don’t get rolled back</td>
<td>Unassigned</td>
<td>Chris Kiehl</td>
<td></td>
<td>Open</td>
<td>Unresolved</td>
</tr>
<tr>
<td>CONF-17396</td>
<td></td>
<td>groupSearchActionName velocity markup shown on “Edit Space Permissions” screen</td>
<td>Brian Nguyen</td>
<td>David Taylor</td>
<td></td>
<td>Open</td>
<td>Unresolved</td>
</tr>
<tr>
<td>CONF-17388</td>
<td></td>
<td>RTE Rendering Issue</td>
<td>Unassigned</td>
<td>Stephen Russell</td>
<td></td>
<td>Open</td>
<td>Unresolved</td>
</tr>
<tr>
<td>CONF-17364</td>
<td></td>
<td>Attachments dropdown allows users to access edit screen without permission, and gives confusing error</td>
<td>Unassigned</td>
<td>Mark Hrynczak</td>
<td></td>
<td>Open</td>
<td>Unresolved</td>
</tr>
<tr>
<td>CONF-17355</td>
<td></td>
<td>Image dialog should not allow thumbnail to be selected for web images</td>
<td>Matt Ryall</td>
<td>Mark Hrynczak</td>
<td></td>
<td>Open</td>
<td>Unresolved</td>
</tr>
<tr>
<td>NPE in</td>
<td></td>
<td></td>
<td></td>
<td>George</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issue Key</td>
<td>Description</td>
<td>Assignee</td>
<td>Reporter</td>
<td>Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-17341</td>
<td>ListItemConverter.convertNode(ListItemConverter.java:50) when saving page</td>
<td>Unassigned</td>
<td>Barnett [Atlassian]</td>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-17332</td>
<td>Can click Preview multiple times on &quot;From the web&quot; tab in image dialog, produces many spinners</td>
<td>Matt Ryall [Atlassian]</td>
<td>Per Fragemann [Atlassian]</td>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-17329</td>
<td>When Adding or Editing a page, the top 'Save' and 'Cancel' buttons are partially 'eaten up' by the text editing field in Wiki Markup mode.</td>
<td>Unassigned</td>
<td>Giles Gaskell [Atlassian]</td>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-17322</td>
<td>IE8 complains that some parts of the edit page are not secure. Suspecting the hamster</td>
<td>Chris Kiehl [Atlassian]</td>
<td>Per Fragemann [Atlassian]</td>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-17292</td>
<td>Office 2007 Excel file does not preview, results in proxy error, then in Out of Memory</td>
<td>Ryan Ackley</td>
<td>Per Fragemann [Atlassian]</td>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-17277</td>
<td>Quicknav doesn't allow command-click to open in new tab anymore</td>
<td>Dmitry Baranovskiy [Atlassian]</td>
<td>Per Fragemann [Atlassian]</td>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-17272</td>
<td>NullPointerException when rendering comments on a page on EAC</td>
<td>Unassigned</td>
<td>Matt Ryall [Atlassian]</td>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-17237</td>
<td>Drag &amp; Drop does not work on Attachments page for Left Nav and Clickr themes</td>
<td>Dave Loeng [Atlassian]</td>
<td>Mark Hrynczak [Atlassian]</td>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-17236</td>
<td>Drag &amp; Drop plugin - attachments page should refresh after attachments have uploaded</td>
<td>Dave Loeng [Atlassian]</td>
<td>Mark Hrynczak [Atlassian]</td>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-17235</td>
<td>Drag and drop - error is given on IE8 when clicking on an uploaded image</td>
<td>Dave Loeng [Atlassian]</td>
<td>Mark Hrynczak [Atlassian]</td>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-17226</td>
<td>Drag &amp; Drop plugin shows incorrect file name during upload for files containing '&lt;'</td>
<td>Unassigned</td>
<td>Mark Hrynczak [Atlassian]</td>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Release Notes 3.1-m7 ("Milestone 7")**
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Not quite a beta yet!

While this release is almost feature complete there are still one major technical improvement (superbatching) and one feature (the dashboard-widget) outstanding, so we can't call it beta just yet. Apart from that though, M7 is feature complete. Anything that you don't see here, you won't see in the final product. We will keep fixing bugs (yes, there are still quite a few unfortunately), but if something else in the functionality really annoys you, please raise it with us now! You can add a comment, or you can send us a mail, or of course raise JIRA issues.

The files are not available for download at the moment, they will be added on Thursday. This page is a teaser, and for use by our translators.

Gadgets & Office Team

Indexing and Searching of Office 2007 files

The contents of Confluence attachments created by PowerPoint 2007, Excel 2007, and Word 2007 are now fully searchable inside Confluence. This includes files with pptx, xlsx, and docx extensions as well as other extensions like potx (PowerPoint template) and dotx.
PowerPoint 2007 previews

You can now preview PowerPoint 2007 files directly in Confluence. We're proud to say that this completes the goal of supporting the new 2007 file formats for the three main Microsoft Office products (Word, Excel, and PowerPoint) in Confluence 3.1. This is in addition to already supporting the legacy binary format.

Keyboard navigation of full-screen PowerPoint and PDF slideshows

If you are using Flash player 10 or higher, you will no longer see any controls when previewing Powerpoint or PDF files in full screen mode. Instead, you must use the spacebar or the arrow keys to move between the slides. Press escape to exit full screen mode.

Launch Microsoft Office from the Attachments screen.

Previously, you had to preview a file to get the option to edit it. We've added a new 'Edit' option to each attachment that will launch the appropriate desktop editor for that attachment. The old 'Edit' option has been renamed to 'Properties'.

Editing user preferences of OpenSocial gadgets in the Macro Browser

As promised in the last release notes we moved the editing of non hidden user preferences to the usual location for macro parameters on the right hand side:

Activity Stream Gadget

We've added an activity stream gadget for Confluence. This means you can now have your Confluence Activity on your JIRA dashboard or on a Confluence page! You can also directly comment from the activity stream.
Dialogs Team

Page move dialog

We’ve added new tabs and improved the design of the new Move Page dialog based on feedback from earlier iterations. Some key improvements:

- A quick way of specifying a known location in the wiki using space and page title autocomplete (quick-nav style)
- Search and Recently Viewed tabs for locating a parent page in different ways
- An improved tree component which gives better loading feedback
- Fixed description panels so helpful text doesn’t disappear when you scroll the tree
- A new location panel in the dialog so you know where you’re moving a page from and to
- Immediately highlight problems with the new location, such as attempting to move a page beneath itself or its children.

The move dialog is feature-complete for this release, but we still have a few remaining improvements to make. In particular, scrolling the tree to the correct location when it opens and making the tree completely undraggable will be fixed for the next release.

Image browser

The new image browser dialog now supports uploading files. The upload proceeds faster than before (because the entire window doesn’t need reloading), and you’ll get a thumbnail of your image preselected, ready to insert.

We’ve fixed the bugs with image borders that prevented them working properly in the rich text editor, and enabled borders by default for newly inserted images. The dialog also includes some simple keyboard navigation that should make it more intuitive to interact with. All features of the image dialog have been tested with all our supported browsers.

We also spent some time on improved validation of uploaded attachments and thumbnail generation. The old insert image window is now disabled, so please let us know if you have any problems with the new functionality.
The image dialog is feature-complete for this release, but also has a few issues which will be fixed before the final release. Better handling of server outages and not being able to attach due to permissions is coming in the next release.

Page "Permissions" dialog

We have reverted to the two row layout to avoid permission-restriction-inconsistencies, and fixed a few bugs along the way. Most notably, inherited restrictions are now displayed separately from the current level's restrictions, and hidden by default. This avoids cluttering the page with stuff you usually know about already (when working in restricted page hierarchies).

Engine Room

Nothing big went into M7, the super-batching work is ongoing and will mean faster page loads from 3.0-beta1 onwards.

Small Improvements

The footer is now always at the bottom at the viewport, rather than the bottom of the content. This makes the layout a lot cleaner on short pages:

Open bugs

Plenty.

What's next?

Beta 1 is due next week

Release Notes

Confluence 3.0.2

Confluence 3.0.2 is a recommended upgrade which fixes some security flaws and other issues.

Please refer to the security advisory for details of the security vulnerabilities, risk assessments and mitigation strategies.

Editing and Visual Improvements
A bug in the Rich Text Editor lead to the generation of line break and other character formatting problems after saving a page. This bug has been fixed.

The sizes of some headings were considered too similar to be visually distinguishable on a page, especially when the headings were separated by intervening text content. This was particularly the case for heading sizes 2 and 3. Hence, the sizes of headings were modified to make them visually more distinct.

The format of colours used in Confluence's user profile areas has been modified slightly to make headings more prominent and form labels clearer.

The blog posts macro was missing the 'Restrict to These Authors' (author) parameter from the macro browser. However, this parameter is now available in the macro browser.

**Other Enhancements and Fixes**

Some customers' users experienced long delays while logging into Confluence, especially when their user accounts belonged to groups containing a large number of other user accounts. This issue was fixed.

Customers were able to generate Confluence page PDF exports directly from external web sites by adding the 'Export to PDF' link (accessible via a Confluence page's 'Tools' menu) to their external web pages. Unfortunately, this function was broken by the introduction of the form token handling security enhancement feature introduced in Confluence 3.0. In Confluence 3.0.2, however, this issue was resolved.

Some customers experienced an issue in which automatic content indexing would stop. This problem has been resolved.

When browsing Active Directory groups in Confluence, it was not possible to view group members if the LDAP Distinguished Names (DN) did not include the username. This bug was fixed.

Read the complete full release notes here.
• Release Notes 2.5.8
• Release Notes 2.5.7
• Release Notes 2.5.6
• Release Notes 2.5.5
• Release Notes 2.5.4
• Release Notes 2.5.3
• Release Notes 2.5.2
• Release Notes 2.5.1
• Release Notes 2.5

Confluence 2.4
• Release Notes 2.4.5
• Release Notes 2.4.4
• Release Notes 2.4.3
• Release Notes 2.4.2

Confluence 2.3
• Release Notes 2.3.3
• Release Notes 2.3.2
• Release Notes 2.3.1
• Release Notes 2.3

Confluence 2.2
• Release Notes 2.2.10
• Release Notes 2.2.9
• Release Notes 2.2.8
• Release Notes 2.2.7
• Release Notes 2.2.6a
• Release Notes 2.2.5
• Release Notes 2.2.4
• Release Notes 2.2.3
• Release Notes 2.2.2
• Release Notes 2.2.1
• Release Notes 2.2

Confluence 2.1
• Release Notes 2.1.5
• Release Notes 2.1.4
• Release Notes 2.1.3
• Release Notes 2.1.2
• Release Notes 2.1.1
• Release Notes 2.1

Confluence 2.0
• Release Notes 2.0.3
• Release Notes 2.0.2
• Release Notes 2.0.1
• Release Notes 2.0

Confluence 1.4
• Release Notes 1.4.4
• Release Notes 1.4.3
• Release Notes 1.4.2
• Release Notes 1.4.1
• Release Notes 1.4

Confluence 1.3
• Release Notes 1.3.6
• Release Notes 1.3.5
• Release Notes 1.3.4
• Release Notes 1.3.2
• Release Notes 1.3.1
• Release Notes 1.3

Confluence 1.2
• Release Notes 1.2.3
• Release Notes 1.2.2
• Release Notes 1.2.1
• Release Notes 1.2
Confluence 1.1

- Release Notes 1.1.2
- Release Notes 1.1.1
- Release Notes 1.1

Confluence 1.0

- Release Notes 1.0.3
- Release Notes 1.0.1
- Release Notes 1.0

Hint: Finding a list of known issues

To find a list of known issues in a particular Confluence version, you can create a filter in the Atlassian issue tracker and use the permlink located at the top right of the issue tracker's page to access the filtered report. The following example filter is the list of bugs reported for Confluence 2.7:

http://jira.atlassian.com/secure/IssueNavigator.jspa?reset=true&issueType=1&pid=10470&fixfor=13115&v

Read the JIRA documentation on creating filters.

Confluence Release Summary

This page shows the highlights of the major Confluence releases.

Current Release

For information about the latest release, please go to the Release Notes.

Confluence 3.0 — 1 June 2009

- Introducing the Macro Browser
- Enhanced User Profiles
- Introducing Your Network
- New User Status
- New Hover Profile Feature
- Customisable Enhanced PDF Exports
- Improved Rich Text Editor
- Performance Improvements
- Engine Room and Developer Community
- Administration Improvements
- More in the release notes

Confluence 2.10 — 3 December 2008

- Introducing the Widget Connector
- Improved Office Connector Now Bundled
- Introducing Quick Navigation
- 'Did You Mean', OpenSearch and More
- Custom Stylesheets for Confluence Spaces
- Updated JIRA Issues Macro with Custom Fields and Dynamic Display
- Enhanced User and Group Management
- Upgraded Rich Text Editor
- Universal Wiki Converter now with SharePoint Import and More
- Improved Activity Macros
- Plugin Framework 2
- More in the release notes

Confluence 2.9 — 7 August 2008

- Streamlined Search
- Auto Save
- Charts
- Page Tree
- Gallery
- New Tutorial
- More in the Menus
- Alphabetical Page Ordering
- Better Spam Prevention
- Plugin Repository
• Engine Room and Developers’ Community
• More in the release notes

Confluence 2.8 — 10 April 2008
• Dynamic menus and simplified screen design
• Page ordering
• Collapsible comments
• Multiple-label filter
• Confluence installer
• Task list
• Performance enhancements
• Administration, management and monitoring
• More in the release notes

Confluence 2.7 — 12 December 2007
• JIRA Issues and Portlet macros use new trusted authentication
• Two-tier administrator permissions
• Inserting images and attaching files during page creation
• Sorting of images in Gallery macro
• Simplified and improved logging
• Performance, maintainability and administration
• More in the release notes

Confluence 2.6 — 27 September 2007
• Fresh look for the Default theme
• Personalised comments and Dashboard
• Space description on Dashboard
• Labels on templates
• Default content for space home pages
• Social Bookmarking plugin now bundled with Confluence
• Back-dating and renaming news items
• More in the release notes

Confluence 2.5 — 29 April 2007
• Introducing flexible page restrictions
• Dynamic task list JRE incompatibilities
• contentbylabel macro supports AND condition
• More in the release notes

Confluence 2.4 — 14 March 2007
• Editable comments
• Page mailing
• More in the release notes

Confluence 2.3 — 5 January 2007
• Confluence Massive — cluster support
• People directory
• Activity plugin — usage statistics
• Blogging RPC plugin — manage news in Confluence using blogger-compatible desktop clients
• WebDAV client support via WebDAV plugin — create, edit, move pages, attachments, etc via WebDAV
• More in the release notes

Confluence 2.2 — 27 April 2006
• Personal spaces
• Localisation/internationalisation — drop-in language packs (similar to JIRA)
• CAPTCHA support — spam protection
• Improved searching
• Improved LDAP performance
• Confluence Standalone ships with Tomcat 5.5
• More in the release notes

Confluence 2.1 — 20 December 2005
• Autosave
• Concurrent edit warnings
• LDAP integration with Atlassian User/POLIS
• More in the release notes

Confluence 2.0 — 17 November 2005
Confluence 3.0 Documentation

- Rich Text Editing — WYSIWYG editor
- Labels
- Dashboard tabs — All, My, Team, New
- RSS builder
- Export pages as Word documents
- Copy pages
- More in the release notes

Confluence 1.4 — 23 May 2005

- New user interface
- Enhanced editing — doing more in the edit interface
- Page permissions
- New plugin types
- Configurable themes
- Completely rewritten Wiki to HTML conversion engine
- More in the release notes

Confluence 1.3 — 30 November 2004

- Mail archiving
- Themes
- Trash can
- More granular space permissions
- More in the release notes

Confluence 1.2 — 23 August 2004

- Page list views — alphabetical, directory view and search view of all pages in a space
- Image thumbnails and thumbnail galleries
- Threaded comments
- Enhanced Search - indexing attachment comments and file names and contextual searching
- New permissions interface
- More in the release notes

Confluence 3.0.2 Release Notes

6 October 2009

Confluence 3.0.2 is a recommended upgrade which fixes some security flaws and other issues.

Please refer to the security advisory for details of the security vulnerabilities, risk assessments and mitigation strategies.

Editing and Visual Improvements

A bug in the Rich Text Editor lead to the generation of line break and other character formatting problems after saving a page. This bug has been fixed.

The sizes of some headings were considered too similar to be visually distinguishable on a page, especially when the headings were separated by intervening text content. This was particularly the case for heading sizes 2 and 3. Hence, the sizes of headings were modified to make them visually more distinct.

The format of colours used in Confluence's user profile areas has been modified slightly to make headings more prominent and form labels clearer.

The blog posts macro was missing the 'Restrict to These Authors' (author) parameter from the macro browser. However, this parameter is now available in the macro browser.

Other Enhancements and Fixes

Some customers' users experienced long delays while logging into Confluence, especially when their user accounts belonged to groups containing a large number of other user accounts. This issue was fixed.

Customers were able to generate Confluence page PDF exports directly from external web sites by adding the "Export to PDF" link (accessible via a Confluence page's 'Tools' menu) to their external web pages. Unfortunately, this function was broken by the introduction of the form token handling security enhancement feature introduced in Confluence 3.0. In Confluence 3.0.2, however, this issue was resolved.

Some customers experienced an issue in which automatic content indexing would stop. This problem has been resolved.

When browsing Active Directory groups in Confluence, it was not possible to view group members if the LDAP Distinguished Names (DN) did not include the username. This bug was fixed.

There's a complete list of fixes below. Click a specific issue to see details of the fix.

Don't have Confluence 3.0 yet?

Take a look at the new features and other highlights in the Confluence 3.0 Release Notes.
## Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the Confluence 3.0.2 Upgrade Notes. We strongly recommend that you back up your confluence.home directory and database before upgrading.

### Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues (20 issues)</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-16651</td>
<td>XSS vulnerability can be exploited with the pagetree macro</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16644</td>
<td>XSS vulnerability can be exploited with the Userlister macro</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-15440</td>
<td>XSS vulnerability can be exploited with the contentbylabel macro</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-15108</td>
<td>Session Fixation attack using JSESSIONID in Confluence</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-13754</td>
<td>HibernateGroupManager.hasExternalMembership() is slow for group with thousands of users</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16459</td>
<td>PDF export link cannot be published to other sites...</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16428</td>
<td>Saving a page can lead to round-trip errors that do not occur by just switching tabs.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-15585</td>
<td>Use #333 for Headings in Confluence and #666 for labels</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-14512</td>
<td>Newline lost between panel macro and table or list breaking markup</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9954</td>
<td>h2 and h3 are too similar in Confluence 2.6</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9575</td>
<td>Content Indexing stops</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8148</td>
<td>Cluster safety job should be made more generic and report multiple deployments with same DB as well</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6085</td>
<td>Can't find group members of group when DN does not include username</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-17159</td>
<td>The new (code) macro puts line numbers in text when I copy/paste</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16955</td>
<td>Support Entitlement Number is listed twice on the System Information page</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16774</td>
<td>Allow system plugins to be enabled</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16089</td>
<td>The blog posts macro is missing the 'author' parameter from the macro browser.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-13635</td>
<td>Show permgen, xmx and xms memory settings in the System Info</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16745</td>
<td>Change german translation on configuration page: Am --&gt; Ein</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16683</td>
<td>superfuous &lt;/table&gt;&lt;/div&gt; in /includes/common-listdecorators.vm</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>

Click [here](http://jira.atlassian.com) to open a report on for Resolved or Closed issues in Confluence 3.0.2.

### Confluence 3.0.2 Upgrade Notes
Confluence 3.0.2 is a recommended upgrade which fixes some security flaws as well as other bugs. You’ll find details of the fixes in the release notes.

Upgrade Notes

New License Key Requirements for Confluence 3.1

The next major release of Confluence (version 3.1) will require Confluence administrators to upgrade (or have upgraded) their Confluence license to Atlassian's new license key format. We are undertaking this change to enhance and improve the support we provide our customers. Bear in mind that this license upgrade will not incur any additional costs and does not change Confluence's functionality in any way.

Confluence 3.0.2 will still operate as usual under your existing Confluence license. However, any customers running Confluence 3.0.0 or later will be able to upgrade their Confluence license to the new license key format before Confluence 3.1 is released. Customers whose licenses expire before Confluence 3.1 is released will be required to upgrade their license to the new license key format.

As a consequence of these imminent licensing changes, relevant pages of the Administration Console area in Confluence 3.0.2 contain warnings about Atlassian's new license key requirement, which will be mandatory in Confluence 3.1. Links to upgrade old licenses to the new license key format are provided in these warnings.

Upgrading an Existing Confluence License for Confluence 3.1 Compatibility

This procedure can only be performed by Confluence Administrators, on Confluence versions 3.0.0 – 3.0.2.

To upgrade your existing license to the new license key format, which will be required for continued use of Confluence 3.1:

1. Visit the license upgrade area in your account at my.atlassian.com.

   You can also access this site by visiting the opening page of the Administration Console (by selecting 'Browse' -> 'Confluence Admin' menu item) or the License Details page of your Confluence installation and clicking on the 'Upgrade this license key now' link.
   If you are already using an Confluence license, this link will not appear on these pages. Note that these links are not available in Confluence versions 3.0.0 – 3.0.1.

2. Enter your Atlassian account details (email address and password) to access and manage your Atlassian product licenses.

3. Select the appropriate Confluence license to expand its details.

4. In the 'info' note below your license on the right-hand side of the page, click the 'update your license key' link (as shown in screenshot 1 below). Once this is done, the note changes to that shown in screenshot 2 below.

   Screenshot 1: License Key Update Function

   ![If you are using Confluence 3 or above, you will need to update your license key.]

   Screenshot 2: Updated License Key Note

   ![This license key is compatible with Confluence 3 or above.]

5. Copy the new license from the text box above this message to your clipboard.

6. Visit the License Details page in your Confluence installation and paste the new license from your clipboard into the 'License' field.

7. Click the 'Save' button. You will notice two changes:

   • If you are using Confluence version 3.0.2, the links to upgrade your license on the License Details and Administration Console opening pages will vanish.
   • A 'Support Entitlement Number' (SEN) will be assigned to your license on the License Details page.

Upgrade Procedure
If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your confluence.home directory and database.

2. If your version of Confluence is earlier than 3.0.2, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 3.0.2 release notes.
   - If you are upgrading from 2.1 or earlier, please also read the 2.2 release notes.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

Confluence 3.0.1 Release Notes

20 August 2009

Confluence 3.0.1 is a recommended upgrade which fixes some security flaws and other issues.

Please refer to the security advisory for details of the security vulnerabilities, risk assessments and mitigation strategies.

Attachment Handling Fixes

When a hierarchy of pages was moved from one space to another, the attachments on child or descendent pages of the parent page were not correctly moved. Instead, users would have to move one page at a time between spaces in order to maintain page attachment integrity. This issue has now been resolved.

Sporadic issues associated with attachment migration occurred when upgrading from either Confluence 2.9.x or 2.10.x, to 3.0. These have now been fixed.

Macro Fixes

A bug was identified in which excerpted content would not be rendered in a blog post macro until the source page containing that content had first been viewed. This phenomenon could occur when excerpt include macros were used in a blog post. It could also occur when excerpt macros were used in a blog post in conjunction with the content-excerpts blog post macro parameter. This problem has now been fixed.

An issue was found with the tasklist macro whereby special characters used in its title were not correctly escaped. This has now been resolved.

Rich Text Editor Fixes

An issue was found in which the Rich Text Editor's link removal feature (available from the right-click context menu) did not work with external links. This has now been resolved.

In the Firefox web browser, the spell checker is now automatically enabled by default in the Rich Text Editor. Users no longer have to first disable the right-click context menu and then enable and select 'Check Spelling' from the Firefox's own right-click context menu.

An issue was identified, which prevented the ability to escape from the quote text effect once it had been selected. This has now been addressed, such that a paragraph is automatically added after selecting this text effect.

Other Enhancements and Fixes

When a Confluence administrator first installs Confluence, runs through the Confluence Setup Wizard and then reaches the database configuration step, the database password is now hidden and is no longer shown in clear text.

It is now possible to filter network RSS feeds by different content types. This is achieved by implementing parameter modifications to the RSS feed link in your RSS newsreader. For more information, please refer to Subscribing to a Network RSS Feed.

Some customers experienced problems importing their site backup from a previous version of Confluence into version 3.0. This has now been resolved in Confluence 3.0.1.

An issue was identified in which multiple blog posts posted on a single day would be listed out of chronological order. This has now been fixed and multiple blog posts posted on a single day are now ordered according to their time of creation.

A problem was identified when accessing Confluence content in Internet Explorer that caused file downloads to fail over an SSL connection. This problem has now been fixed in this release of Confluence.

An issue was found in the page tree views on instances of Confluence running on Weblogic 10.x. This has now been resolved.

There’s a complete list of fixes below. Click a specific issue to see details of the fix.

Don't have Confluence 3.0 yet?

Take a look at the new features and other highlights in the Confluence 3.0 Release Notes.

Download Latest Version

Upgrading from a Previous Version of Confluence
Confluence 3.0 Documentation

Upgrading Confluence should be fairly straightforward. Please read the Confluence 3.0.1 Upgrade Notes. We strongly recommend that you back up your confluence.home directory and database before upgrading.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues (44 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-16141</td>
<td></td>
<td>Directory traversal in Profile Picture path - leads to privilege escalation in &lt; 3.0</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16136</td>
<td></td>
<td>XSS vulnerability can be exploited on the WebDAV Configuration page</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16135</td>
<td></td>
<td>XSS vulnerability in space name when page move would create a duplicate</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16348</td>
<td></td>
<td>Attachment File Not Found - in children pages when a page is moved to another space</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16019</td>
<td></td>
<td>XSS vulnerability when moving page between spaces</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16509</td>
<td></td>
<td>Upgrading from any version before 2.9 to 3.0 doesn't migrate attachments and/or breaks custom space logos</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16466</td>
<td></td>
<td>Attachment migration from 2.10 to 3.0 fails</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16420</td>
<td></td>
<td>Update PDF export plugin to be compatible with new cluster/cache architecture</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16311</td>
<td></td>
<td>Build a Standard Edition of Confluence 3.0 (without Coherence)</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16225</td>
<td></td>
<td>Some bundled themes don't support web resource injection</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16209</td>
<td></td>
<td>XSS in PDF screen</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16084</td>
<td></td>
<td>Cannot filter a network feed by contentType</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16016</td>
<td></td>
<td>The JIRA Issues Macro in the Macro Browser is missing two parameters - &quot;renderMode&quot; and &quot;baseurl&quot;.</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16014</td>
<td></td>
<td>Blog Posts Macro only renders excerpts if target page has been rendered</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-16005</td>
<td></td>
<td>The Favourite Pages Macro in the Macro Browser is missing its &quot;Maximum Number of Results&quot; parameter.</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-15997</td>
<td></td>
<td>Invalid error message when Updating status and session expired</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-15970</td>
<td></td>
<td>XSS in user links</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-15940</td>
<td></td>
<td>Server Base URL not set when sending a support request email...</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-15923</td>
<td></td>
<td>Unlink in RTE doesn't work for external links</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-15908</td>
<td></td>
<td>Tasklist macros double escaping titles in IE</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-15788</td>
<td></td>
<td>Unable to import site backup during set up of Confluence 3.0</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-15751</td>
<td></td>
<td>Cursor jumps to beginning of the page from new paragraph after cancelling the Macro Browser on Firefox</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-15722</td>
<td></td>
<td>The DynamicTaskList2 plugin provides an explicit description making it impossible to internationalised</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Bug Id</td>
<td>Description</td>
<td>Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15701</td>
<td>Passwords are visible when configuring database</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15610</td>
<td>New look for user email preferences needs its layout fixed</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15001</td>
<td>Firefox 3 does not enable the spell checker on the comment text area by default</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14276</td>
<td>Unable to create renderer-component module in plugins2</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-13702</td>
<td>Session must not be invalidated on logout</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-13482</td>
<td>Can’t get out of blockquote format in the rte</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-12576</td>
<td>Duplicate friendly cache names which result in cache statistics not being visible</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-12001</td>
<td>Blog posts appear in wrong order</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8098</td>
<td>User browser shows duplicate accounts when a user exists both locally and in LDAP</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-16552</td>
<td>Renaming the ehcache config file fails on windows</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-16218</td>
<td>Add a note into the admin screen explaining that you can use wiki markup and even an include macro to put an actual page onto the dashboard.</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-16037</td>
<td>Misleading message when removing page permissions through info page</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-16017</td>
<td>The JUnit Macro in the Macro Browser is missing one parameter - “debug”.</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15959</td>
<td>User Profile page does not indicate why name and e-mail address is uneditable when LDAP integrated.</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15948</td>
<td>Parameters passed to jQuery extend method are in wrong order</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15920</td>
<td>User Hover is not working for a username which contains plus characters</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15152</td>
<td>Images with mimetypes that do not match extension cannot be used as thumbnails</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14592</td>
<td>Macro Browser icons have tooltips showing in IE</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-12292</td>
<td>Draft Page Titles not displaying</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-16028</td>
<td>Typo in log4j.properties</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15696</td>
<td>Context menu toggle icon loses the tick when an anonymous user switches to full-screen view</td>
<td>Resolved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Click [here](http://jira.atlassian.com) to open a report on [jira.atlassian.com](http://jira.atlassian.com) for Resolved or Closed issues in Confluence 3.0.1.

**Confluence 3.0.1 Upgrade Notes**

Confluence 3.0.1 is a recommended upgrade which fixes some security flaws as well as other bugs. You’ll find details of the fixes in the release notes.

On this page:

- Upgrade Notes
  - Confluence Caching Layer Changes
  - Upgrade Procedure
If you have customised the cache settings in your installation of Confluence (e.g., for performance reasons), then please read ALL information on this page before upgrading to Confluence 3.0.1 or to a 'standard edition' of Confluence. This page also contains important information for customers who are upgrading their installation of Confluence to version 2.6 or later from September 2009.

Oracle Coherence Licensing Change:

- Due to a license agreement change between Atlassian and Oracle over the Coherence technology, from September 2009, Confluence will be made available in two editions:
  - **Standard Edition** — Confluence with Ehcache's caching technology (available to customers with non-clustered Confluence licenses).
  - **Clustered Edition** — Confluence with Oracle's Coherence clustering and distributed caching technology (available to customers with Confluence clustered licenses only).
- If you are currently running a clustered installation of Confluence, please do not upgrade it with a standard edition of Confluence.
- For more information, please refer to the Coherence License Changes document.
- In standard editions of Confluence, Ehcache replaces the local caching functionality previously provided by the Coherence technology.

Confluence 3.0.1 is the first Confluence version to be released in two editions 'standard' and 'clustered'.

Also, from September 2009:

- Standard editions will be released for each previous major version of Confluence back to 2.6. These will be:
  - Available as Confluence versions 2.10.4, 2.9.3, 2.8.3, 2.7.4 and 2.6.3.
  - Available to customers with non-clustered Confluence licenses.
- The remaining previous versions of Confluence currently available from our download page (from 2.6 to 3.0 inclusively), will be re-released as clustered editions and will only be available to customers with Confluence clustered licenses.
- The installation files for all versions of Confluence prior to 2.6 (which are no longer supported) will be removed from the Atlassian web site and will no longer be available for download and installation.

Confluence Caching Layer Changes

Due to the caching layer changes in the 'standard editions' of Confluence, you will need to reapply any cache customisations made to your cache sizes and/or cache configuration file, if **all three** of the following points are applicable:

- You have implemented cache customisations to your Confluence installation's cache sizes (either via the Administration Console or cache configuration file).
- You have an existing installation of Confluence 3.0 or earlier (excluding the 'standard edition' versions) and will be upgrading to Confluence 3.0.1 or later (or one of the earlier standard editions).
- Your Confluence installation is using a non-clustered Confluence license.

If you customised your Confluence instance's cache settings via the Administration Console, please refer to the Reapplying Cache Size Modifications via the Administration Console section below.

If you customised your Confluence instance's cache settings by modifying the cache configuration file, please refer to the Reapplying Cache Configuration File Modifications section below.

Reapplying Cache Size Modifications via the Administration Console

To reapply your cache size modifications via the administration console:

1. Before you upgrade, use the procedure described on the Cache Statistics page to open the 'Cache Statistics' section of the Administration Console in the 'Advanced' view.
2. Print out this view or save a copy of the web page for later reference. (This contains your existing individual cache settings.)
3. After upgrading Confluence, view the 'Cache Statistics' section of your upgraded Confluence installation in the 'Advanced' view.
4. Use the same procedure describe on the Cache Statistics page to re-adjust the size of each cache based on the previous settings that you had printed out (or saved).

Reapplying Cache Configuration File Modifications

To maintain your existing cache configuration file settings, you will need to transfer any cache customisations you have implemented in the Coherence cache configuration file (confluence-coherence-cache-config.xml) to the relevant entries in the Ehcache cache configuration file (ehcache.xml).
Each cache has a cache-mapping element in the Coherence file (of which there is an equivalent cache element in the ehcache.xml file). Unfortunately, copying across your customisations is not quite a straightforward process because the Coherence file defines several ‘caching schemes’ to store the actual cache values, which in turn are referenced by the cache-mapping elements. In contrast, the ehcache.xml file does not support caching schemes and a cache’s values are expressed explicitly in separate parameters of a cache element.

To convert your Coherence cache configuration file customisations across to the equivalent Ehcache file:

1. Open both the confluence-coherence-cache-config.xml and ehcache.xml files in a text editor. These files are located in the /confluence-home/config directory.
   - If you implemented your customisations in a version of Confluence prior to 3.0, you will most likely find the confluence-coherence-cache-config.xml file in the /confluence-install/confluence/WEB-INF/classes directory.

2. In the customised confluence-coherence-cache-config.xml file:
   a. Identify the caching schemes that were customised in this file and make a note of the values of all its child elements.
      - Typically, each caching scheme is located inside a local-scheme element and all of these are enclosed within the cache-schemes element, which appears towards the end of this file.
   b. Note each customised caching scheme by the content of its scheme-name element.
   c. For each cache-mapping element (which typically appears towards the top of this file), identify if it has a scheme-name element whose content matches one noted in the previous step and if so, make a note of its associated cache-name element.

3. In the ehcache.xml file:
   a. Identify each cache element whose ‘name’ parameter matches the cache-name elements noted in step ‘2c’.
   b. Using the mappings table below, apply the values noted in step ‘2a’ to the appropriate parameters of the cache elements identified in the previous step (‘3a’).

Mappings table showing how elements of the Coherence cache configuration file map to parameters of the equivalent Ehcache file.

<table>
<thead>
<tr>
<th>Coherence Element</th>
<th>Ehcache Attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>high-units</td>
<td>maxElementsInMemory</td>
</tr>
<tr>
<td>expiry-delay &gt; 0s</td>
<td>timeToIdleSeconds</td>
</tr>
<tr>
<td></td>
<td>- Use this attribute for expiry delays greater than 0s along with the eternal attribute set to ‘false’</td>
</tr>
<tr>
<td>expiry-delay = 0s</td>
<td>eternal</td>
</tr>
<tr>
<td></td>
<td>- For expiry delays of 0s, set this attribute to ‘true’.</td>
</tr>
</tbody>
</table>

Upgrade Procedure

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your confluence.home directory and database.

2. If your version of Confluence is earlier than 3.0.1, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 3.0.1 release notes.
   - If you are upgrading from 2.1 or earlier, please also read the 2.2 release notes.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

Confluence 3.0 Release Notes

Confluence 3.0 fixes some security flaws. Please refer to the security advisory for details of the security vulnerabilities, risk assessment and mitigation strategies.

1 June 2009

With great pleasure, Atlassian presents Confluence 3.0.

Confluence 3.0 is a major release which presents a number of new features and enhancements. With Confluence 3.0, we introduce the new Macro Browser feature, which provides a simple, point-and-click interface for discovering and inserting any of Confluence’s 80+ bundled...
macros into a page. Macros greatly enhance the functionality of Confluence pages by allowing users to add tools like task lists, RSS feeds and multi-media content. The macro browser makes it easy to select the macro you need and preview its output with your chosen settings before finally adding it to your page. It also makes it easy to edit and modify the parameters of existing macros on a page.

Confluence 3.0 also provides a range of social features that allow you to discover and connect with other users in your Confluence site. User Profiles have been redesigned with a more intuitive layout and provide additional fields for users to share information about themselves like their IM handle or personal website. The new Network feature lets you follow other users inside your Confluence site and view an aggregated stream of all the activity such as page edits, blogs posts and status updates they undertake. The new Hover Profile feature displays a user’s summary profile information whenever you hover your mouse pointer over their name anywhere in Confluence. Hover profiles provide easy access to the user’s email address and profile details and allow you to add them to your network. Finally, you can let others know what you are working on, share a link or simply broadcast a short message to your team by setting your User Status. Once your current status message has been updated, it will appear in various activity streams, your profile views and your profile sidebar.

The new PDF Export feature addresses one of the most highly voted requests for Confluence. You have full control over your PDF exports using Cascading Style Sheet (CSS) modifications. You also have the ability to customise page and margin sizes, add a title page or table of contents list to your exported document, add customisable headers and footers and easily select a subsection of documentation for export.

The Rich Text Editor now includes a right-click context menu that makes it easier to insert links, images, macros and tables into your Confluence page. It is now also possible to copy/cut and paste rows within tables.

Confluence’s performance has been substantially improved in both standalone and clustered installations with dramatic improvements in response times. Furthermore, scalability has been enhanced, with significantly improved CPU utilisation compared to previous Confluence versions.

**Highlights of this Release:**
- Introducing the Macro Browser
- Enhanced User Profiles
- Introducing Your Network
- New User Status
- New Hover Profile Feature
- Customisable Enhanced PDF Exports
- Improved Rich Text Editor
- Performance Improvements
- Engine Room and Developer Community
- Administration Improvements
- More than 240 Fixes and Improvements

**Responding to your Feedback:**
- Thank you for all your issues and votes. Keep logging, to help us keep improving!
- Below is a list of the highlights in this release.
- Attached is the full list of issues resolved in this release.

**Upgrading from a previous version of Confluence**
- Upgrading Confluence should be fairly straightforward. **We strongly recommend that you back up your Confluence Home directory and your database before upgrading.**
- Please refer to the Confluence 3.0 Upgrade Notes for further essential information about plugins and other factors affecting your upgrade.

**Highlights of Confluence 3.0**

**Introducing the Macro Browser**

Now you can choose from Confluence’s plugin-based macros and implement them with ease, from a single point.
- Using the macro browser’s fast filtering capabilities, you can quickly find any bundled macro, including additional plugin-based macros installed on your Confluence system.
- Select your macro and modify and preview its parameters before adding it to your Confluence page or blog post.
- Take a look at our documentation for more details on the new macro browser feature.
Enhanced User Profiles

Confluence's enhanced user profiles area has been augmented to incorporate Confluence 3.0's new community-based features and to improve the overall user experience.

- User profiles now allow users to enter 'structured' information about themselves, which can be used by Confluence's community-based features.
- Each user's profile view shows a list of their own recent activities, such as page or blog post updates, changes to their profile information and status updates (described below).
- A summary of each user's profile information is displayed in a 'profile sidebar' on the right-hand side of pages within their personal space and their blog posts too. The profile sidebar appears on pages based on the default Confluence theme.
- Take a look at our documentation for more details on the enhanced user profiles feature.

The new user profile view
The new profile sidebar which appears on your blog posts or pages within your personal space.
Introducing Your Network

The new network feature helps you keep track of what other users are doing throughout your Confluence site, by allowing you to ‘follow’ their recent activities.

- The activities tracked by the network feature include:
  - Additions or edits to pages or blog posts, including comments of users you are following.
  - Updates to statuses or profile details of users you are following.
• From the network view, you can set up an RSS feed which provides notifications on the activities of users you are following.
• Take a look at our documentation for more details on the network feature.

New User Status

User status allows you to broadcast a short message of up to 140 characters rapidly for others to see.

• Your messages could include anything from what you are currently working on to a message or a hyperlink you want to share immediately with other users.
• Other users can see your status messages on various activity streams throughout Confluence and on your profile views and personal space pages.
• Take a look at our documentation for more details on the new user status feature and your status updates page.

New Hover Profile Feature
Hover profile is a convenient tool that provides quick access to key information about other Confluence users, their user profile features and their network functions. Whenever you hover your mouse pointer over a Confluence user's name, key details about them appears in a popup balloon, such as their name, profile picture, email address and their current status.

- From a user's hover profile popup balloon, you can access the following functions:
  - Follow the user to track their recent activities via your network (or stop following them).
  - Directly send the user an email message via your email client.
- You can also access the following features of their user profile via their hover profile popup:
  - The user's personal space.
  - The user's profile, network or status updates views.
- Take a look at our documentation for more details on the new user hover profile feature.

### Customisable Enhanced PDF Exports

The enhanced PDF export feature in Confluence 3.0 has been rebuilt from the ground up and provides full customisation of your PDF exports with CSS modifications, to suit your particular requirements.

- Key enhancements to PDF export customisations include the ability to:
  - Customise page and margin sizes.
  - Add a table of contents or add headers and footers with customisable content.
  - Add a title page to your document.
  - Select a subsection of a space (for example, a chapter or section) to export more easily.
- PDF exports are now up to four times faster on large spaces.
- This feature addresses some of the most highly voted Confluence issues. Important bugs in the old PDF export feature have been fixed in this new version, including:
  - Fixed width columns — Table columns were consistently presented with fixed widths using the old PDF export function. However, the new PDF export function presents table columns with variable widths, as they appear on screen.
  - Ability to handle landscape page exports.
- Take a look at our documentation for more details on the enhanced PDF export and PDF stylesheet features.

The old PDF export function only generated fixed-width table columns

The new PDF export feature now generates variable-width table columns
Easily add a title page when you export a space as a PDF.

A table of contents is generated in the PDF by default when you export a space.

It's easy to add custom headers and footers.
**Improved Rich Text Editor**

The rich text editor contains several interface enhancements and bug fixes that improve its overall user experience.

- The rich text editor includes a **right-click context menu**, making it easier to insert links, images, macros and tables into your Confluence page or blog post.
- It is now possible to cut/copy and paste rows.
- Take a look at our documentation for more details on the **rich text editor overview** to see more information about its enhancements and redesigned interface.

**Right-click context menu**

![Sales Reports](image)

The sales team uses charts to create a sales dashboard showing their

- **Edit** this page and change a number in one of the charts below.
- **Edit** this page and change a bar chart below into a line chart.
- Click **here** for more information about using Confluence Charts.
**Performance Improvements**

A number of performance improvements have been implemented.

- Confluence is now able to use more available resources under high load conditions.
- For Confluence Standalone installations, actions are up to 2 times faster.
- For Confluence Clustered installations:
  - Viewing pages is up to 2.5 times faster under medium, high and peak load.
  - Other actions are up to 5 times faster under medium load and 10 times faster under high and peak load.
- For more information, please refer to the [Confluence 3.0 performance improvements](#) documentation.

**Confluence Standalone installations - Medium Load**

![Average time Comparison](image)

**Engine Room and Developer Community**

- Confluence 3.0 now implements the [Atlassian Plugin Framework 2.2](#) and the new [Shared Access Layer (SAL)](#).
- For more information, please refer to the [Plugin Framework Documentation](#).

**Administration Improvements**

Confluence contains a number of improvements to its administrative features, many of which are easily accessible from the Administration Console.

- Security improvements:
  - A new form token authentication mechanism provides Confluence with the means to validate the origin and intent of requested actions, thus adding an additional level of security against phenomena such as cross-site request forgery. This feature also provides a mechanism for Confluence plugin developers to protect their plugins. For more information, please refer to the [form token handling](#) documentation.
  - Anti-XSS mode is now enabled by default and the remaining encoding bugs have been fixed.
  - You can now generate a thread dump from the Administration Console. See our documentation on [generating a thread dump](#).
  - It is now possible to adjust the size of Confluence’s internal caches, allowing administrators to fine tune Confluence’s cache handling and performance at runtime without the need to restart Confluence. For more information on using this this feature, refer to our page on [cache statistics](#).
  - The [Office connector](#) contains additional configuration options and provides simplified handling of the `{viewfile}` macro for the new Macro Browser.

**More than 240 Fixes and Improvements**

520
Page comparisons have been improved such that deletions or additions of single words (and short phrases) within a single line are highlighted red or green, respectively. Furthermore, large sections of unchanged text are compacted to reduce page length, but their content and context can easily be revealed at a click.

- Page comparisons now appear in email notifications, whenever a user edits a page or blog post.
- As well as the enhanced PDF export feature, you can now choose a subsection of a space (such as a document chapter) more easily, to export to XML or HTML.
- Using the new network, profile and user status list macros, you can incorporate components of Confluence 3.0's new community-based features directly into your page or blog post.
- Atlassian now provides support for recently added features to the widget macro, which include Widgetbox, Yahoo Video, Dailymotion, Wufoo HTML Form Builder, DabbleDB, Google Calendar and BackType micro-blogging.
- The Activity Macros now incorporate improved handling of the 'author' parameter.
- Take a look at the complete list of issues resolved in Confluence 3.0.

Page comparisons in email notifications

Subject: [confluence] Marketing > OpenSocial Demo Scenarios 26 May
From: extranet@atlassian.com
Date: 7:00 PM
To: barconali@atlassian.com

OpenSocial Demo Scenarios 26 May

Page edited by Ted Tencza

Changes (2)

... "In the second email she is notified that Mark Halvorson has joined her products team for the next sprint. Curious to know what Mark is currently working on, Pam decides to add Mark to her Friend List so that she can start to follow his activity stream." # Open the Friend list in GMail and add Mark.
"After adding Mark to her Open Social Friends list, his activity on gadgets-staging.atlassian.com (where the project is being managed) will now feed into the activity stream located right in her email client."

# Refresh. Need to reconfigure so that this points to demo server (currently pointing at StAC), otherwise recent activity from Mark won't show up in this

Known Issues in this Release

We have an enthusiastic and dedicated group of testers and customers who jump in there, try out the new Confluence release, and report any problems so that we can fix them quickly.

We would like to highlight a known issue affecting the rich text editor, in which text cannot be added to the end of line that already ends with a link. Refer to CONF-15053 for more information about this issue. For more information on other known issues associated with the release of Confluence 3.0, please refer to Confluence 3.0 Known Issues.

A big thank you to everyone who helps us ensure that Confluence keeps getting better and better.

The Confluence 3.0 Team

Development
We have an enthusiastic and dedicated group of testers and customers who jump in there, try out the new Confluence release, and report any problems so that we can fix them quickly. Below is a list of known issues. We're working on them, and will have a point release out as soon as possible.
A big thank you to everyone who helps us ensure that Confluence keeps getting better and better.

While you’re waiting, take a look at the great new features in Confluence 3.0 Release Notes.

You can also browse the Confluence project in our issue tracker to see what’s fixed and what’s not, for each release.

**Issues to be Fixed**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the rich text editor, text cannot be added to the end of line that already ends with a link.</td>
<td>CONF-15053</td>
</tr>
</tbody>
</table>

**Other Issues**

![Early 3.0 Build Issue](image)

Note that an early build of 3.0 (Build number 1626) had a problem when moving a page from one space to another. If the default filesystem attachment storage was configured then any attachments on the page would fail to be moved if the page was moved to a new space. The attachment would only be accessible again if the page was moved back to its original space.

The current 3.0 release (3.0.0_01) does not have this problem. See CONF-15986 for more details.

Confluence on MySQL databases

Some customers who run Confluence on a MySQL database may find that when they upgrade to Confluence 3.0 or later, their Confluence 3.0 upgrade fails, with the Confluence logs revealing a "Specified key was too long" error. This issue is known to occur when MySQL's MyISAM storage engine and UTF-8 character set is used with Confluence.

If this is the case, please refer to the Upgrade to Confluence 3.0 with MySQL database fails with messages like "specified key was too long" knowledge base article on how to resolve this upgrade issue.

**Confluence 3.0 Upgrade Notes**

Below are some essential notes on upgrading to Confluence 3.0. For details of the new features and improvements in this release, please read the Confluence 3.0 Release Notes.

On this page:

- Upgrade Notes
  - Anonymous Access to User Profiles
  - Plugins
  - The Usage Tracking Plugin is disabled by default
- Upgrade Procedure

**Upgrade Notes**

Anonymous Access to User Profiles

Confluence 3.0 introduces a new Anonymous Access Global Permission, [View User Profiles](#), which prevents individuals who have not logged in to Confluence from viewing other users' profiles. This permission, which is accessible from the Administration Console was introduced to protect the identity and security of Confluence user accounts and details associated with the Confluence 3.0 Community-based features.

In all new installations of Confluence 3.0, this permission is disabled for Anonymous users by default, such that an individual will not be able to view another user's profile details until they have logged in to Confluence.

Plugins

If you are having trouble with any screens in Confluence 3.0, which could be related to potentially incompatible or unsupported third-party plugins, try using the Plugin Support Mode to disable all unsupported plugins.

The Usage Tracking Plugin is disabled by default

Due to performance issues in high load environments, the [Confluence Usage Tracking Plugin](#) is disabled by default in Confluence 3.0. While upgrading to Confluence 3, the plugin will be turned off even if it was active before. We do still deliver the plugin as part of Confluence (and have even improved its performance since 2.10), so if you don’t have a high load environment and are happy with the performance of the plugin, you can easily reactivate this plugin through the Administration Console.

**Upgrade Procedure**

![Upgrade a test environment first](image)

As always, please test your upgrades in your test environment before rolling into production.
If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your Confluence Home Directory and database. See the documentation on backing up your Confluence site. If you are using an external database, perform a database backup.

2. If your version of Confluence is earlier than 2.10.x, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 2.10 upgrade notes.
   - If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.
   - If you are upgrading from 2.2 or earlier, you will need to upgrade to Confluence 2.7.x first, confirm the upgrade was successful, then upgrade again from version 2.7.x to the latest. For more details, please refer to CONF-11767.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

5. If you encounter a problem during the upgrade, please create a support ticket and one of our support engineers will assist you through the process.

RELATED TOPICS

Confluence 3.0 Release Notes

Confluence 3 Performance improvements

Confluence 3.0 has significant performance improvements over Confluence 2.10 and earlier versions. This page explains the performance characteristics of Confluence 3.0 and shows the improvements that were made when compared to its predecessor Confluence 2.10. In brief, compared to version 2.10, Confluence 3.0 response times in Standalone mode are down by 30% to 40%, and response times in a cluster are down by 50%. In other words, the clustered version of Confluence 3.0 is now twice as fast as before. Confluence also scales a lot better than before: More or faster CPU's are better utilised with Confluence 3.0 than they were with 2.10 and earlier versions.

1 Specific performance improvements

We have fixed a few bottlenecks that were so specific that you might have encountered them while analysing logfiles and thread dumps. Even if you did not see them, they might have been slowing your system down, depending on your use-case.

- Rebuilding the search index is significantly faster, up to factor 2. In our performance testing, a sample set of 20,000 pages that took 30 minutes using Confluence 2.10 now just takes 16 minutes in Confluence 3.0.
- Improved Database Queries
  - CONF-14488 : Added composite database index to SpacePermissions table. This will speed up installations with many page or space restrictions
  - CONF-14422 : Now, only the most recent version of an attachment is loaded when retrieving it for the first time. This had slowed down pages (and the dashboard) when an attachment had hundreds or thousands of revisions
  - CONF-14273 : Reduced overall DB load when rendering pages, which can help overall performance in case the database server was under high load already
- Caching Enhancements
  - CONF-12894 : Improved resource caching to improve HTTPS/SSL speed. This will make the screen render faster when you are using HTTPS.
  - CONF-8034 : Now serving caching headers for attachments to improve user interface responsiveness: Attachments (this includes user avatars) will not be downloaded again by the browser, leading to faster page loads
- Others:
  - Viewing PDF files through the office connector will use less memory and therefore significantly reduce garbage collection, which has caused some systems to perform a lot slower than needed
  - USGTRK-37 A bug was fixed in the usage statistics plugin that enables it to work smarter. It is still a plugin that is not made for high load so we suggest you disable it on high load scenarios

2 General performance improvements

We have been improving Confluence response time and scalability by implementing small improvements across the board. They are too many and too small to be presented individually, so we will use the results of our general performance-test to demonstrate the effect.

In our general Confluence performance tests, we execute a standardised set of commonly-used functions that simulates the activity of concurrent users. We base this profile on the actual usage patterns of our public Confluence installation, a rather large and active instance. To cater for irregular usage spike, we increase the load by factor 10. On average, this load test performs 10 to 15 Confluence requests per second. Most customer installations do not even get close to these numbers during normal operation. Under normal (low) load, the response times are actually a lot better than what we present here. But we prefer to use this medium load scenario because it simulates cases which may occur infrequently, and in which Confluence still needs to perform reasonably well. In addition to this scenario, we defined two additional, more extreme scenarios that perform the same requests, but at 20 to 35 requests per second to simulate an even higher load.
How to read and understand the statistics

Please note that we use the term "request" for anything that requests or posts data to Confluence. So viewing a Confluence page is a request, performing a search is a request, posting a comment is a request, and also using the quick navigation drop-down performs requests.

The data table

Each row in the table represents one use case. All use cases are run in parallel for 30 minutes, with a 5 minute ramp-up period.

- **Samplers**: The first column is the name of the requests performed in this scenario, like reading pages, commenting pages, or performing searches.
- **95% Percentile**: This is the time (in milliseconds) by which 95% of all requests of this scenario have completed. This is not an average value, you rather can think of it as a "how long the slowest requests (except the very worst 5% cases) take" - scenario.
- **Average**: The third column shows the average response time of the requests in this scenario - the lower the better.

The most important use-cases are the following:

- **View Page**: This loads one out of hundreds of different Confluence pages. Some are short, others are long. Some have many images, others have many comments. Some have many macros, others do not. The pages are accessed through their full URL, as if someone had clicked a link within the application or a bookmark.
- **Search Site**: A search across the whole system.
- **Quick Nav**: This simulates typing a character into the search field and getting back suggestions in real time. This is one of the most popular and time-critical operations. Therefore, this operation needs to be very fast.
- **Dashboard**: Simulates visiting the Confluence dashboard.
- **Edit Page**: This saves a page back to Confluence, and notifies all people who are watching this page.

The graph

The chart shows how many concurrent requests per second are being processed. The blue line indicates the moving average per second, and they green lines indicate variation. The blue line is not constant, since the pages and operations requested are extremely different in their CPU usage: A short page with no comments will render faster than a long page with many macros and comments, which in turn, will render faster than a page-edit that triggers many notifications. These differences in requests result in different CPU loads over time.

The more stable the blue average line is, the more consistent the user experience. The higher the line is, the more users can access and use Confluence simultaneously.

Applying the numbers to your company's usage patterns

The notes on this page geared at showing the performance differences between 2.10 and 3.0, using the same tests we used to test Confluence 2.10.

Hardware specification

All tests were conducted on two to four servers, each of which had the following specifications:

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server model</td>
<td>Dell 2950</td>
</tr>
<tr>
<td>CPU type</td>
<td>Intel(R) Xeon(R) CPU E5405 @ 2.00GHz (4 Cores)</td>
</tr>
<tr>
<td>CPUs per server</td>
<td>1 or 2, depending on test. See test details</td>
</tr>
<tr>
<td>RAM</td>
<td>32Gb (but just 2Gb are used for the JVMs, and the database uses 3Gb)</td>
</tr>
<tr>
<td>Disks</td>
<td>2 x 15K, 72Gb SAS</td>
</tr>
<tr>
<td>Network</td>
<td>1Gbps</td>
</tr>
<tr>
<td>Webserver</td>
<td>Tomcat 6, Java 6</td>
</tr>
<tr>
<td>Database</td>
<td>Postgres 8.2.4</td>
</tr>
</tbody>
</table>

When testing the Confluence Standalone version, one server acts as the application server and one as the database server, which is the setup we recommend to customers to enable high performance. A third server is used to generate the load, using JMeter. In the cluster, we use two application servers and one database server. In the cluster configuration we use the Pound load balancer, which runs on the same (fourth) server as the load generator JMeter. We do not use any webserver or caching proxy for our tests, and we cannot make any recommendations about which one to use. We want to measure the raw performance of the application server and suggest that you use the webserver/proxies with which you are most familiar.
Software and Settings

The JVM settings we used were -XX:MaxPermSize=192m -Xmx2000m -XX:+PrintGCTimeStamps -verbosegc -XX:+PrintGCDetails -XX:+PrintTenuringDistribution -XX:NewSize=384m -XX:SurvivorRatio=2 -XX:+UseParallelGC -XX:+UseParallelOldGC.

The usage tracking plugin was disabled during these tests because it is known to have performance issues and we recommend that it be turned off in high load deployments.

Confluence standalone

Confluence is most frequently installed on one physical machine. Unless you know you are using (or are planning to use) a cluster, then this section is for you.

Confluence 3.0 Standalone has significantly better performance characteristics than Confluence 2.10 Standalone. We compare three load scenarios and give the details below.

Medium Load scenario, Standalone, 1 CPU

We define Medium Load as requesting roughly 15 requests per second from the loadtest. Most customers with smaller user bases never get even close to this usage, so they will experience a lot faster response times than what you can see below. But occasionally even customers with less than 1000 active users might experience spikes in usage, so we chose 15 requests per second as our medium load scenario.

We are using modest hardware (see above) with just one Xeon CPU with 4 cores, since we assume this is what a medium sized company would be using.

Confluence 2.10 vs Confluence 3.0 response times

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Average time in 2.10</th>
<th>Average time in 3.0</th>
<th>Improvement</th>
<th>95 percent in 2.10</th>
<th>95 percent in 3.0</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse Label</td>
<td>1619ms</td>
<td>1129ms</td>
<td>43%</td>
<td>3979ms</td>
<td>2387ms</td>
<td>66%</td>
</tr>
<tr>
<td>Commentor submit comment</td>
<td>306ms</td>
<td>338ms</td>
<td>-9%</td>
<td>805ms</td>
<td>794ms</td>
<td>1%</td>
</tr>
<tr>
<td>Commentor view commented page</td>
<td>737ms</td>
<td>628ms</td>
<td>17%</td>
<td>3386ms</td>
<td>1783ms</td>
<td>89%</td>
</tr>
<tr>
<td>Commentor view page</td>
<td>989ms</td>
<td>707ms</td>
<td>39%</td>
<td>4133ms</td>
<td>2168ms</td>
<td>90%</td>
</tr>
<tr>
<td>Creator add page</td>
<td>402ms</td>
<td>211ms</td>
<td>90%</td>
<td>765ms</td>
<td>391ms</td>
<td>95%</td>
</tr>
<tr>
<td>Creator submit new page</td>
<td>525ms</td>
<td>387ms</td>
<td>35%</td>
<td>1161ms</td>
<td>882ms</td>
<td>31%</td>
</tr>
<tr>
<td>Creator view page</td>
<td>256ms</td>
<td>233ms</td>
<td>9%</td>
<td>704ms</td>
<td>501ms</td>
<td>40%</td>
</tr>
<tr>
<td>Dashboard</td>
<td>554ms</td>
<td>382ms</td>
<td>44%</td>
<td>1685ms</td>
<td>634ms</td>
<td>165%</td>
</tr>
<tr>
<td>Editor display page</td>
<td>520ms</td>
<td>417ms</td>
<td>24%</td>
<td>1881ms</td>
<td>1065ms</td>
<td>76%</td>
</tr>
<tr>
<td>Edit Page</td>
<td>332ms</td>
<td>250ms</td>
<td>32%</td>
<td>831ms</td>
<td>620ms</td>
<td>34%</td>
</tr>
<tr>
<td>Editor submit edit</td>
<td>1199ms</td>
<td>961ms</td>
<td>24%</td>
<td>3949ms</td>
<td>3459ms</td>
<td>14%</td>
</tr>
<tr>
<td>Go to log in page</td>
<td>274ms</td>
<td>456ms</td>
<td>-39%</td>
<td>486ms</td>
<td>2795ms</td>
<td>-82%</td>
</tr>
<tr>
<td>Log In</td>
<td>342ms</td>
<td>333ms</td>
<td>2%</td>
<td>774ms</td>
<td>480ms</td>
<td>61%</td>
</tr>
<tr>
<td>Quick Navigation Search</td>
<td>134ms</td>
<td>57ms</td>
<td>133%</td>
<td>597ms</td>
<td>110ms</td>
<td>439%</td>
</tr>
<tr>
<td>Reader Not Found</td>
<td>551ms</td>
<td>369ms</td>
<td>49%</td>
<td>1266ms</td>
<td>615ms</td>
<td>105%</td>
</tr>
<tr>
<td>Reader RSS Blogpost Atom</td>
<td>170ms</td>
<td>59ms</td>
<td>184%</td>
<td>637ms</td>
<td>67ms</td>
<td>838%</td>
</tr>
<tr>
<td>Reader RSS Blogpost RSS2</td>
<td>206ms</td>
<td>95ms</td>
<td>116%</td>
<td>754ms</td>
<td>97ms</td>
<td>675%</td>
</tr>
<tr>
<td>Reader RSS Comment Atom</td>
<td>203ms</td>
<td>126ms</td>
<td>60%</td>
<td>929ms</td>
<td>481ms</td>
<td>92%</td>
</tr>
<tr>
<td>Reader RSS Comment RSS2</td>
<td>369ms</td>
<td>151ms</td>
<td>143%</td>
<td>1602ms</td>
<td>477ms</td>
<td>235%</td>
</tr>
<tr>
<td>Reader RSS Page Atom</td>
<td>628ms</td>
<td>513ms</td>
<td>22%</td>
<td>2725ms</td>
<td>2147ms</td>
<td>26%</td>
</tr>
<tr>
<td>Reader RSS Page RSS2</td>
<td>800ms</td>
<td>547ms</td>
<td>46%</td>
<td>3381ms</td>
<td>2196ms</td>
<td>53%</td>
</tr>
<tr>
<td>View Page</td>
<td>890ms</td>
<td>584ms</td>
<td>52%</td>
<td>3259ms</td>
<td>1854ms</td>
<td>75%</td>
</tr>
<tr>
<td>Reader for Space Page</td>
<td>904ms</td>
<td>677ms</td>
<td>33%</td>
<td>2219ms</td>
<td>1566ms</td>
<td>41%</td>
</tr>
<tr>
<td>Search Site</td>
<td>505ms</td>
<td>340ms</td>
<td>48%</td>
<td>2006ms</td>
<td>598ms</td>
<td>235%</td>
</tr>
</tbody>
</table>
Medium Load comparison between 2.10 and 3.0 in standalone mode

The most important scenario ("View Page") used to take about 900ms in Confluence 2.10, but in 3.0 it is down to 600ms, which is a performance improvement of about 50%. Almost all other scenarios have improved as well, some even by more than 100% (e.g. more than twice as fast). The throughput in this scenario has only changed from approximately 13/s to 14/s. However, this is because the test itself is not making more requests. The main improvement here is that the throughput has less variations (ups/downs) for example when rendering very complicated or large pages. You can improve the smoothness of the line even further by using a different garbage collector, as explained on our tuning page.

High Load Scenario, Standalone, 2 CPUs
We define a High Load Scenario as one in which the load generation equates to approximately 25 requests per second. In this test, we are using the same hardware as above, but with 2 CPUs. We assume that any company which expects 20 or more requests per second, even if this occurs during a short time frame, will have greater hardware resources (of equivalent cost) than to what is used in this test.

### Confluence 2.10 vs Confluence 3.0 response times

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Average time in 2.10</th>
<th>Average time in 3.0</th>
<th>Improvement</th>
<th>95 percent in 2.10</th>
<th>95 percent in 3.0</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse Label</td>
<td>2389ms</td>
<td>1531ms</td>
<td>56%</td>
<td>6196ms</td>
<td>4195ms</td>
<td>47%</td>
</tr>
<tr>
<td>Commentor submit comment</td>
<td>424ms</td>
<td>397ms</td>
<td>6%</td>
<td>1779ms</td>
<td>1603ms</td>
<td>10%</td>
</tr>
<tr>
<td>Commentor view commented page</td>
<td>1211ms</td>
<td>815ms</td>
<td>48%</td>
<td>4729ms</td>
<td>2863ms</td>
<td>65%</td>
</tr>
<tr>
<td>Commentor view page</td>
<td>1402ms</td>
<td>912ms</td>
<td>53%</td>
<td>5284ms</td>
<td>3094ms</td>
<td>70%</td>
</tr>
<tr>
<td>Creator add page</td>
<td>558ms</td>
<td>297ms</td>
<td>87%</td>
<td>1962ms</td>
<td>1543ms</td>
<td>27%</td>
</tr>
<tr>
<td>Creator submit new page</td>
<td>783ms</td>
<td>522ms</td>
<td>49%</td>
<td>2567ms</td>
<td>1545ms</td>
<td>66%</td>
</tr>
<tr>
<td>Creator view page</td>
<td>443ms</td>
<td>284ms</td>
<td>55%</td>
<td>1845ms</td>
<td>843ms</td>
<td>118%</td>
</tr>
<tr>
<td>Dashboard</td>
<td>905ms</td>
<td>506ms</td>
<td>78%</td>
<td>2771ms</td>
<td>1245ms</td>
<td>122%</td>
</tr>
<tr>
<td>Editor display page</td>
<td>807ms</td>
<td>504ms</td>
<td>59%</td>
<td>2650ms</td>
<td>2165ms</td>
<td>22%</td>
</tr>
<tr>
<td>Edit Page</td>
<td>551ms</td>
<td>338ms</td>
<td>63%</td>
<td>1961ms</td>
<td>1461ms</td>
<td>34%</td>
</tr>
<tr>
<td>Editor submit edit</td>
<td>1524ms</td>
<td>1180ms</td>
<td>29%</td>
<td>5115ms</td>
<td>4189ms</td>
<td>22%</td>
</tr>
<tr>
<td>Go to log in page</td>
<td>409ms</td>
<td>419ms</td>
<td>-2%</td>
<td>1171ms</td>
<td>982ms</td>
<td>19%</td>
</tr>
<tr>
<td>Log In</td>
<td>520ms</td>
<td>346ms</td>
<td>50%</td>
<td>2124ms</td>
<td>700ms</td>
<td>203%</td>
</tr>
<tr>
<td>Quick Navigation Search</td>
<td>318ms</td>
<td>124ms</td>
<td>155%</td>
<td>1895ms</td>
<td>369ms</td>
<td>413%</td>
</tr>
<tr>
<td>Reader Not Found</td>
<td>866ms</td>
<td>492ms</td>
<td>76%</td>
<td>2439ms</td>
<td>1579ms</td>
<td>54%</td>
</tr>
<tr>
<td>Reader RSS Blogpost Atom</td>
<td>300ms</td>
<td>105ms</td>
<td>186%</td>
<td>1549ms</td>
<td>191ms</td>
<td>709%</td>
</tr>
<tr>
<td>Reader RSS Blogpost RSS2</td>
<td>299ms</td>
<td>98ms</td>
<td>203%</td>
<td>1954ms</td>
<td>183ms</td>
<td>965%</td>
</tr>
<tr>
<td>Reader RSS Comment Atom</td>
<td>390ms</td>
<td>224ms</td>
<td>74%</td>
<td>1946ms</td>
<td>931ms</td>
<td>108%</td>
</tr>
<tr>
<td>Reader RSS Comment RSS2</td>
<td>362ms</td>
<td>254ms</td>
<td>42%</td>
<td>1824ms</td>
<td>1196ms</td>
<td>52%</td>
</tr>
<tr>
<td>Reader RSS Page Atom</td>
<td>1098ms</td>
<td>777ms</td>
<td>41%</td>
<td>4804ms</td>
<td>2848ms</td>
<td>68%</td>
</tr>
<tr>
<td>Reader RSS Page RSS2</td>
<td>1126ms</td>
<td>807ms</td>
<td>39%</td>
<td>4532ms</td>
<td>3406ms</td>
<td>33%</td>
</tr>
<tr>
<td>View Page</td>
<td>1248ms</td>
<td>742ms</td>
<td>68%</td>
<td>4188ms</td>
<td>2839ms</td>
<td>47%</td>
</tr>
<tr>
<td>Reader for Space Page</td>
<td>1410ms</td>
<td>914ms</td>
<td>54%</td>
<td>3749ms</td>
<td>2487ms</td>
<td>50%</td>
</tr>
<tr>
<td>Search Site</td>
<td>804ms</td>
<td>411ms</td>
<td>95%</td>
<td>2611ms</td>
<td>1475ms</td>
<td>76%</td>
</tr>
</tbody>
</table>
Confluence 2.10 throughput

High Load comparison between 2.10 and 3.0 in standalone mode

This scenario shows the performance improvements between Confluence 2.10 and 3.0 best. Confluence 2.10 managed about 22 requests per second, Confluence 3.0 about 27 requests per second. Although this is a significant improvement, those in response times are even more impressive. If you have times when there are 20 requests per second, Confluence will respond a lot better and end users will notice the difference.

Peak Load Scenario, Standalone, 2 CPUs

We define a Peak Load Scenario as one in which approximately 35 requests per second from the load generator. Very few of our customers ever reach these high levels of requests per second, but if you do have 100,000 users and many of them view pages at the same time, then the peak load scenario may occasionally be reached. Again, these tests are run on a 2CPU hardware.

Confluence 3.0 vs Confluence 2.10 response times

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Average time in 2.10</th>
<th>Average time in 3.0</th>
<th>Improvement</th>
<th>95 percent in 2.10</th>
<th>95 percent in 3.0</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse Label</td>
<td>4747ms</td>
<td>3207ms</td>
<td>47%</td>
<td>10951ms</td>
<td>7575ms</td>
<td>44%</td>
</tr>
<tr>
<td>Commentor submit comment</td>
<td>1517ms</td>
<td>1146ms</td>
<td>32%</td>
<td>4521ms</td>
<td>3611ms</td>
<td>25%</td>
</tr>
<tr>
<td>Commentor view commented</td>
<td>3148ms</td>
<td>2173ms</td>
<td>44%</td>
<td>9222ms</td>
<td>6184ms</td>
<td>49%</td>
</tr>
<tr>
<td>page</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commentor view page</td>
<td>3302ms</td>
<td>2317ms</td>
<td>42%</td>
<td>9891ms</td>
<td>6410ms</td>
<td>54%</td>
</tr>
<tr>
<td>Creator add page</td>
<td>1693ms</td>
<td>934ms</td>
<td>81%</td>
<td>3904ms</td>
<td>3170ms</td>
<td>23%</td>
</tr>
<tr>
<td>Feature</td>
<td>Confluence 2.10</td>
<td>Confluence 3.0</td>
<td>Speedup</td>
<td>Confluence 2.10</td>
<td>Confluence 3.0</td>
<td>Speedup</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>---------</td>
<td>----------------</td>
<td>----------------</td>
<td>---------</td>
</tr>
<tr>
<td>Creator submit new page</td>
<td>2777ms</td>
<td>1959ms</td>
<td>41%</td>
<td>5812ms</td>
<td>5170ms</td>
<td>12%</td>
</tr>
<tr>
<td>Creator view page</td>
<td>1589ms</td>
<td>1065ms</td>
<td>49%</td>
<td>3523ms</td>
<td>3358ms</td>
<td>4%</td>
</tr>
<tr>
<td>Dashboard</td>
<td>2121ms</td>
<td>1420ms</td>
<td>49%</td>
<td>5492ms</td>
<td>3704ms</td>
<td>48%</td>
</tr>
<tr>
<td>Editor display page</td>
<td>2216ms</td>
<td>1502ms</td>
<td>47%</td>
<td>5081ms</td>
<td>4233ms</td>
<td>20%</td>
</tr>
<tr>
<td>Edit Page</td>
<td>1714ms</td>
<td>1062ms</td>
<td>61%</td>
<td>4008ms</td>
<td>3452ms</td>
<td>16%</td>
</tr>
<tr>
<td>Editor submit edit</td>
<td>3945ms</td>
<td>3205ms</td>
<td>23%</td>
<td>10523ms</td>
<td>9467ms</td>
<td>11%</td>
</tr>
<tr>
<td>Go to log in page</td>
<td>934ms</td>
<td>818ms</td>
<td>14%</td>
<td>4544ms</td>
<td>4091ms</td>
<td>11%</td>
</tr>
<tr>
<td>Log In</td>
<td>807ms</td>
<td>913ms</td>
<td>-11%</td>
<td>2879ms</td>
<td>3531ms</td>
<td>-18%</td>
</tr>
<tr>
<td>Quick Navigation Search</td>
<td>1121ms</td>
<td>568ms</td>
<td>97%</td>
<td>4288ms</td>
<td>2704ms</td>
<td>58%</td>
</tr>
<tr>
<td>Reader Not Found</td>
<td>2159ms</td>
<td>1222ms</td>
<td>76%</td>
<td>4265ms</td>
<td>3472ms</td>
<td>22%</td>
</tr>
<tr>
<td>Reader RSS Blogpost Atom</td>
<td>864ms</td>
<td>531ms</td>
<td>62%</td>
<td>2796ms</td>
<td>2511ms</td>
<td>11%</td>
</tr>
<tr>
<td>Reader RSS Blogpost RSS2</td>
<td>1099ms</td>
<td>527ms</td>
<td>108%</td>
<td>4307ms</td>
<td>2691ms</td>
<td>60%</td>
</tr>
<tr>
<td>Reader RSS Comment Atom</td>
<td>1110ms</td>
<td>736ms</td>
<td>50%</td>
<td>3469ms</td>
<td>2760ms</td>
<td>25%</td>
</tr>
<tr>
<td>Reader RSS Comment RSS2</td>
<td>1159ms</td>
<td>863ms</td>
<td>34%</td>
<td>3959ms</td>
<td>3130ms</td>
<td>26%</td>
</tr>
<tr>
<td>Reader RSS Page Atom</td>
<td>2395ms</td>
<td>2300ms</td>
<td>4%</td>
<td>7588ms</td>
<td>7342ms</td>
<td>3%</td>
</tr>
<tr>
<td>Reader RSS Page RSS2</td>
<td>2661ms</td>
<td>2258ms</td>
<td>17%</td>
<td>8295ms</td>
<td>7922ms</td>
<td>4%</td>
</tr>
<tr>
<td>View Page</td>
<td>3038ms</td>
<td>2055ms</td>
<td>47%</td>
<td>7809ms</td>
<td>5702ms</td>
<td>36%</td>
</tr>
<tr>
<td>Reader for Space Page</td>
<td>3005ms</td>
<td>1990ms</td>
<td>51%</td>
<td>6298ms</td>
<td>4850ms</td>
<td>29%</td>
</tr>
<tr>
<td>Search Site</td>
<td>1950ms</td>
<td>1247ms</td>
<td>56%</td>
<td>4902ms</td>
<td>3647ms</td>
<td>34%</td>
</tr>
</tbody>
</table>

### Average time Comparison

![Average time Comparison](image)

### 95 percent Comparison

![95 percent Comparison](image)

**throughput**

Confluence 2.10
Confluence 3.0 throughput:

Please note that this test is slightly skewed by the Load generator sitting one the same machine. The actual results will look a bit better.

Peak Load comparison between 2.10 and 3.0 in standalone mode

Confluence 2.10 is able to deliver about 22 requests per second, but response times are not so good. Rendering a page takes 3s and rendering the dashboard takes 2s on average. Confluence 3.0 delivers improved throughput of about 28 requests per second and response times are significantly better than 2.10 (rendering a page is down to 2s, and rendering the dashboard is down to 1.4s). However, response times under Peak Load in 3.0 are still not ideal. Even with 2 CPUs Confluence 3.0 starts reaching its limits here. While standalone is able to deliver results, what we really recommend for this peak load scenario is a clustered solution. Read on for more details.

Confluence Clustered

When rolling out Confluence to a larger amount of users, Clustering becomes important to balance spikes in load. The most commonly used deployment is a 2-node cluster, running on three physical machines (two application servers connected to one database server).

Clustering does not make a single request faster in low load scenarios, but it helps the system dealing with a larger number of requests in parallel, without degrading in performance.

Medium Load Scenario, Clustered, 2 nodes, 1 CPU per node

As above, we define the Medium Load scenario as making 15 requests per second. This test uses just 1 CPU per machine.

Confluence 3.0 vs Confluence 2.10 response times

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Average time in 2.10</th>
<th>Average time in 3.0</th>
<th>Improvement</th>
<th>95 percent in 2.10</th>
<th>95 percent in 3.0</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse Label</td>
<td>2477ms</td>
<td>919ms</td>
<td>169%</td>
<td>6365ms</td>
<td>2143ms</td>
<td>196%</td>
</tr>
<tr>
<td>Commentor submit comment</td>
<td>410ms</td>
<td>380ms</td>
<td>7%</td>
<td>1127ms</td>
<td>856ms</td>
<td>31%</td>
</tr>
<tr>
<td>Commentor view commented page</td>
<td>1029ms</td>
<td>595ms</td>
<td>72%</td>
<td>4193ms</td>
<td>1826ms</td>
<td>129%</td>
</tr>
<tr>
<td>Commentor view page</td>
<td>1367ms</td>
<td>786ms</td>
<td>73%</td>
<td>5264ms</td>
<td>2557ms</td>
<td>105%</td>
</tr>
<tr>
<td>Creator add page</td>
<td>611ms</td>
<td>214ms</td>
<td>184%</td>
<td>1463ms</td>
<td>414ms</td>
<td>253%</td>
</tr>
<tr>
<td>Creator submit new page</td>
<td>692ms</td>
<td>422ms</td>
<td>63%</td>
<td>1596ms</td>
<td>938ms</td>
<td>70%</td>
</tr>
<tr>
<td>Creator view page</td>
<td>329ms</td>
<td>131ms</td>
<td>150%</td>
<td>1034ms</td>
<td>205ms</td>
<td>404%</td>
</tr>
<tr>
<td>Dashboard</td>
<td>1319ms</td>
<td>395ms</td>
<td>234%</td>
<td>3787ms</td>
<td>556ms</td>
<td>581%</td>
</tr>
<tr>
<td>Editor display page</td>
<td>750ms</td>
<td>387ms</td>
<td>93%</td>
<td>2592ms</td>
<td>1420ms</td>
<td>82%</td>
</tr>
<tr>
<td>Edit Page</td>
<td>493ms</td>
<td>208ms</td>
<td>136%</td>
<td>1569ms</td>
<td>433ms</td>
<td>261%</td>
</tr>
</tbody>
</table>
### Editor submit edit
- Confluence 2.10: 1500ms
- Confluence 3.0: 980ms
- Throughput: 53%

### Go to log in page
- Confluence 2.10: 854ms
- Confluence 3.0: 357ms
- Throughput: 138%

### Log In
- Confluence 2.10: 961ms
- Confluence 3.0: 422ms
- Throughput: 127%

### Quick Navigation Search
- Confluence 2.10: 183ms
- Confluence 3.0: 56ms
- Throughput: 226%

### Reader Not Found
- Confluence 2.10: 663ms
- Confluence 3.0: 351ms
- Throughput: 89%

### Reader RSS Blogpost Atom
- Confluence 2.10: 499ms
- Confluence 3.0: 73ms
- Throughput: 577%

### Reader RSS Blogpost RSS2
- Confluence 2.10: 453ms
- Confluence 3.0: 65ms
- Throughput: 589%

### Reader RSS Comment Atom
- Confluence 2.10: 776ms
- Confluence 3.0: 194ms
- Throughput: 300%

### Reader RSS Comment RSS2
- Confluence 2.10: 742ms
- Confluence 3.0: 186ms
- Throughput: 297%

### Reader RSS Page Atom
- Confluence 2.10: 1378ms
- Confluence 3.0: 618ms
- Throughput: 122%

### Reader RSS Page RSS2
- Confluence 2.10: 1497ms
- Confluence 3.0: 584ms
- Throughput: 156%

### View Page
- Confluence 2.10: 1352ms
- Confluence 3.0: 631ms
- Throughput: 114%

### Reader for Space Page
- Confluence 2.10: 1251ms
- Confluence 3.0: 793ms
- Throughput: 57%

### Search Site
- Confluence 2.10: 709ms
- Confluence 3.0: 258ms
- Throughput: 174%

### Throughput Comparison
- **Confluence 2.10**
- **Confluence 3.0**

**Average time Comparison**

**95 percent Comparison**

**Confluence 3.0 throughput**
Medium Load comparison between 2.10 and 3.0 in clustered mode

As you can see, the response time of each request is a lot better in Confluence 3.0. On average the performance has doubled, leading to response times that are just 50% of what they used to be. This means that a clustered installation provides the same responsiveness as a standalone installation, while still being much better at scaling, which will be shown below. In this example the load was so low that throughput did not increase very much.

High Load Scenario, Clustered, 2 nodes, 2 CPUs per node

As above, we define the High Load scenario as making 25 requests per second. Few customers will reach these levels of requests per second, but if you have several ten thousand users these levels can be reached during peak business hours. This test is run on servers with 2 CPUs per machine.

Confluence 3.0 vs Confluence 2.10 response times

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Average time in 2.10</th>
<th>Average time in 3.0</th>
<th>Improvement</th>
<th>95 percent in 2.10</th>
<th>95 percent in 3.0</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse Label</td>
<td>4674ms</td>
<td>1447ms</td>
<td>222%</td>
<td>12831ms</td>
<td>3822ms</td>
<td>235%</td>
</tr>
<tr>
<td>Commentor submit comment</td>
<td>584ms</td>
<td>442ms</td>
<td>31%</td>
<td>1948ms</td>
<td>1340ms</td>
<td>45%</td>
</tr>
<tr>
<td>Commentor view commented page</td>
<td>1728ms</td>
<td>680ms</td>
<td>154%</td>
<td>5943ms</td>
<td>2164ms</td>
<td>174%</td>
</tr>
<tr>
<td>Commentor view page</td>
<td>2048ms</td>
<td>893ms</td>
<td>129%</td>
<td>7111ms</td>
<td>2868ms</td>
<td>147%</td>
</tr>
<tr>
<td>Creator add page</td>
<td>838ms</td>
<td>245ms</td>
<td>241%</td>
<td>2333ms</td>
<td>562ms</td>
<td>314%</td>
</tr>
<tr>
<td>Creator submit new page</td>
<td>896ms</td>
<td>466ms</td>
<td>92%</td>
<td>2308ms</td>
<td>1181ms</td>
<td>95%</td>
</tr>
<tr>
<td>Creator view page</td>
<td>443ms</td>
<td>155ms</td>
<td>186%</td>
<td>1300ms</td>
<td>234ms</td>
<td>454%</td>
</tr>
<tr>
<td>Dashboard</td>
<td>2707ms</td>
<td>339ms</td>
<td>697%</td>
<td>7781ms</td>
<td>427ms</td>
<td>1722%</td>
</tr>
<tr>
<td>Editor display page</td>
<td>960ms</td>
<td>446ms</td>
<td>115%</td>
<td>2909ms</td>
<td>1633ms</td>
<td>78%</td>
</tr>
<tr>
<td>Edit Page</td>
<td>735ms</td>
<td>255ms</td>
<td>188%</td>
<td>2276ms</td>
<td>699ms</td>
<td>225%</td>
</tr>
<tr>
<td>Editor submit edit</td>
<td>1888ms</td>
<td>1108ms</td>
<td>70%</td>
<td>6513ms</td>
<td>4060ms</td>
<td>60%</td>
</tr>
<tr>
<td>Go to log in page</td>
<td>1525ms</td>
<td>256ms</td>
<td>494%</td>
<td>4650ms</td>
<td>524ms</td>
<td>786%</td>
</tr>
<tr>
<td>Log In</td>
<td>1278ms</td>
<td>406ms</td>
<td>214%</td>
<td>3712ms</td>
<td>598ms</td>
<td>520%</td>
</tr>
<tr>
<td>Quick Navigation Search</td>
<td>540ms</td>
<td>49ms</td>
<td>1000%</td>
<td>4292ms</td>
<td>95ms</td>
<td>4418%</td>
</tr>
<tr>
<td>Reader Not Found</td>
<td>882ms</td>
<td>413ms</td>
<td>113%</td>
<td>2151ms</td>
<td>813ms</td>
<td>164%</td>
</tr>
<tr>
<td>Reader RSS Blogpost Atom</td>
<td>1165ms</td>
<td>49ms</td>
<td>2245%</td>
<td>5052ms</td>
<td>72ms</td>
<td>6888%</td>
</tr>
<tr>
<td>Reader RSS Blogpost RSS2</td>
<td>1494ms</td>
<td>51ms</td>
<td>2825%</td>
<td>5565ms</td>
<td>69ms</td>
<td>7872%</td>
</tr>
<tr>
<td>Reader RSS Comment Atom</td>
<td>1655ms</td>
<td>195ms</td>
<td>748%</td>
<td>5990ms</td>
<td>763ms</td>
<td>684%</td>
</tr>
<tr>
<td>Reader RSS Comment RSS2</td>
<td>1497ms</td>
<td>197ms</td>
<td>656%</td>
<td>5892ms</td>
<td>822ms</td>
<td>616%</td>
</tr>
<tr>
<td>Reader RSS Page Atom</td>
<td>2440ms</td>
<td>630ms</td>
<td>287%</td>
<td>8300ms</td>
<td>2263ms</td>
<td>266%</td>
</tr>
<tr>
<td>Reader RSS Page RSS2</td>
<td>2562ms</td>
<td>685ms</td>
<td>273%</td>
<td>8027ms</td>
<td>2530ms</td>
<td>217%</td>
</tr>
<tr>
<td>View Page</td>
<td>1780ms</td>
<td>750ms</td>
<td>137%</td>
<td>5560ms</td>
<td>2728ms</td>
<td>103%</td>
</tr>
<tr>
<td>Reader for Space Page</td>
<td>1668ms</td>
<td>835ms</td>
<td>99%</td>
<td>4177ms</td>
<td>1976ms</td>
<td>111%</td>
</tr>
<tr>
<td>Search Site</td>
<td>1691ms</td>
<td>275ms</td>
<td>513%</td>
<td>5853ms</td>
<td>407ms</td>
<td>1338%</td>
</tr>
</tbody>
</table>
High Load comparison between 2.10 and 3.0 in clustered mode

In this test we show how using a Cluster for high load instances can increase throughput and reduce response time. Confluence 3.0 has many improvements which benefit the clustered version. In the case of the test above, we can see that as the load is increased, Confluence is able to use more of the available CPU power on the 8 core machines to scale up and handle the higher load with an very good response time. This is where clustering makes a lot of sense now.

**Peak Load Scenario, Clustered, 2 nodes, 2 CPUs per node**

As above, we define peak load as the load generator making around 35 requests per second. During this test we used 2 CPUs per machine.
Confluence 3.0 vs Confluence 2.10 response times

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Average time in 2.10</th>
<th>Average time in 3.0</th>
<th>Improvement</th>
<th>95 percent in 2.10</th>
<th>95 percent in 3.0</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse Label</td>
<td>9179ms</td>
<td>2150ms</td>
<td>326%</td>
<td>22987ms</td>
<td>5695ms</td>
<td>303%</td>
</tr>
<tr>
<td>Commentor submit comment</td>
<td>999ms</td>
<td>859ms</td>
<td>16%</td>
<td>3175ms</td>
<td>2712ms</td>
<td>17%</td>
</tr>
<tr>
<td>Commentor view commented page</td>
<td>2760ms</td>
<td>1213ms</td>
<td>127%</td>
<td>8739ms</td>
<td>3908ms</td>
<td>123%</td>
</tr>
<tr>
<td>Commentor view page</td>
<td>3225ms</td>
<td>1672ms</td>
<td>92%</td>
<td>10941ms</td>
<td>5323ms</td>
<td>105%</td>
</tr>
<tr>
<td>Creator add page</td>
<td>2396ms</td>
<td>379ms</td>
<td>532%</td>
<td>7285ms</td>
<td>1487ms</td>
<td>389%</td>
</tr>
<tr>
<td>Creator submit new page</td>
<td>1913ms</td>
<td>858ms</td>
<td>122%</td>
<td>4850ms</td>
<td>2548ms</td>
<td>90%</td>
</tr>
<tr>
<td>Creator view page</td>
<td>1070ms</td>
<td>270ms</td>
<td>296%</td>
<td>2925ms</td>
<td>1130ms</td>
<td>158%</td>
</tr>
<tr>
<td>Dashboard</td>
<td>7383ms</td>
<td>466ms</td>
<td>1481%</td>
<td>19349ms</td>
<td>1429ms</td>
<td>1254%</td>
</tr>
<tr>
<td>Editor display page</td>
<td>2460ms</td>
<td>761ms</td>
<td>223%</td>
<td>7388ms</td>
<td>2737ms</td>
<td>169%</td>
</tr>
<tr>
<td>Edit Page</td>
<td>2609ms</td>
<td>357ms</td>
<td>630%</td>
<td>7143ms</td>
<td>1385ms</td>
<td>415%</td>
</tr>
<tr>
<td>Editor submit edit</td>
<td>4064ms</td>
<td>1821ms</td>
<td>123%</td>
<td>12599ms</td>
<td>6287ms</td>
<td>100%</td>
</tr>
<tr>
<td>Go to log in page</td>
<td>3622ms</td>
<td>280ms</td>
<td>1191%</td>
<td>13728ms</td>
<td>497ms</td>
<td>2657%</td>
</tr>
<tr>
<td>Log In</td>
<td>3603ms</td>
<td>497ms</td>
<td>625%</td>
<td>12477ms</td>
<td>1045ms</td>
<td>1093%</td>
</tr>
<tr>
<td>Quick Navigation Search</td>
<td>1206ms</td>
<td>92ms</td>
<td>1273%</td>
<td>9515ms</td>
<td>435ms</td>
<td>2084%</td>
</tr>
<tr>
<td>Reader Not Found</td>
<td>1591ms</td>
<td>539ms</td>
<td>195%</td>
<td>3616ms</td>
<td>1622ms</td>
<td>122%</td>
</tr>
<tr>
<td>Reader RSS Blogpost Atom</td>
<td>4514ms</td>
<td>78ms</td>
<td>5688%</td>
<td>14570ms</td>
<td>136ms</td>
<td>10605%</td>
</tr>
<tr>
<td>Reader RSS Blogpost RSS2</td>
<td>4666ms</td>
<td>84ms</td>
<td>5416%</td>
<td>14554ms</td>
<td>134ms</td>
<td>10689%</td>
</tr>
<tr>
<td>Reader RSS Comment Atom</td>
<td>4750ms</td>
<td>328ms</td>
<td>1346%</td>
<td>14934ms</td>
<td>1545ms</td>
<td>866%</td>
</tr>
<tr>
<td>Reader RSS Comment RSS2</td>
<td>4723ms</td>
<td>302ms</td>
<td>1460%</td>
<td>16526ms</td>
<td>1412ms</td>
<td>1070%</td>
</tr>
<tr>
<td>Reader RSS Page Atom</td>
<td>6443ms</td>
<td>1012ms</td>
<td>536%</td>
<td>20556ms</td>
<td>4005ms</td>
<td>413%</td>
</tr>
<tr>
<td>Reader RSS Page RSS2</td>
<td>6287ms</td>
<td>1109ms</td>
<td>466%</td>
<td>17762ms</td>
<td>4175ms</td>
<td>325%</td>
</tr>
<tr>
<td>View Page</td>
<td>3363ms</td>
<td>1345ms</td>
<td>150%</td>
<td>10510ms</td>
<td>4717ms</td>
<td>122%</td>
</tr>
<tr>
<td>Reader for Space Page</td>
<td>3069ms</td>
<td>1161ms</td>
<td>164%</td>
<td>9475ms</td>
<td>3023ms</td>
<td>213%</td>
</tr>
<tr>
<td>Search Site</td>
<td>3334ms</td>
<td>378ms</td>
<td>780%</td>
<td>10560ms</td>
<td>1368ms</td>
<td>671%</td>
</tr>
</tbody>
</table>

### Average time Comparison

![Average time Comparison Chart](chart.png)
Confluence 3.0 throughput

Peak Load comparison between 2.10 and 3.0 in clustered mode

This test highlights how well Confluence 3.0 can now scale. Response times remain low as the load is increased. Confluence 3.0 is able to make far better use of more powerful hardware than Confluence 2.10 which is shown by the improved response times for key scenarios like Page view and Dashboard.

**Feedback welcome**

We welcome your feedback! Is this document understandable, does it cover the areas that you are most interested about? Tell us and leave comments on this page!

### High Load Cluster

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Average time in 2.10</th>
<th>Average time in 3.0</th>
<th>Improvement</th>
<th>95 percent in 2.10</th>
<th>95 percent in 3.0</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse Label</td>
<td>4674ms</td>
<td>1447ms</td>
<td>222%</td>
<td>12831ms</td>
<td>3822ms</td>
<td>235%</td>
</tr>
<tr>
<td>Commentor submit comment</td>
<td>584ms</td>
<td>442ms</td>
<td>31%</td>
<td>1948ms</td>
<td>1340ms</td>
<td>45%</td>
</tr>
<tr>
<td>Commentor view commented page</td>
<td>1728ms</td>
<td>680ms</td>
<td>154%</td>
<td>5943ms</td>
<td>2164ms</td>
<td>174%</td>
</tr>
<tr>
<td>Commentor view page</td>
<td>2048ms</td>
<td>893ms</td>
<td>129%</td>
<td>7111ms</td>
<td>2868ms</td>
<td>147%</td>
</tr>
<tr>
<td>Creator add page</td>
<td>838ms</td>
<td>245ms</td>
<td>241%</td>
<td>2333ms</td>
<td>562ms</td>
<td>314%</td>
</tr>
<tr>
<td>Creator submit new page</td>
<td>896ms</td>
<td>466ms</td>
<td>92%</td>
<td>2308ms</td>
<td>1181ms</td>
<td>95%</td>
</tr>
</tbody>
</table>
### High Load Single Node

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Average time in 2.10</th>
<th>Average time in 3.0</th>
<th>Improvement</th>
<th>95 percent in 2.10</th>
<th>95 percent in 3.0</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse Label</td>
<td>2389ms</td>
<td>1531ms</td>
<td>56%</td>
<td>6196ms</td>
<td>4195ms</td>
<td>47%</td>
</tr>
<tr>
<td>Commentor submit comment</td>
<td>424ms</td>
<td>397ms</td>
<td>6%</td>
<td>1779ms</td>
<td>1603ms</td>
<td>10%</td>
</tr>
<tr>
<td>Task</td>
<td>2.10</td>
<td>3.0</td>
<td>% Change</td>
<td>2.10</td>
<td>3.0</td>
<td>% Change</td>
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<td>815ms</td>
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<td>122%</td>
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<td>2650ms</td>
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<td>22%</td>
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<td>1961ms</td>
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<td>155%</td>
<td>1895ms</td>
<td>369ms</td>
<td>413%</td>
</tr>
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<td>2439ms</td>
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</tr>
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<td>74%</td>
<td>1946ms</td>
<td>931ms</td>
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<td>2839ms</td>
<td>47%</td>
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<td>2487ms</td>
<td>50%</td>
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Average time Comparison

95 percent Comparison
**Medium Load Cluster**

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<th>Scenario</th>
<th>Average time in 2.10</th>
<th>Average time in 3.0</th>
<th>Improvement</th>
<th>95 percent in 2.10</th>
<th>95 percent in 3.0</th>
<th>Improvement</th>
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<td>2557ms</td>
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<td>184%</td>
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<td>414ms</td>
<td>253%</td>
</tr>
<tr>
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<td>1596ms</td>
<td>938ms</td>
<td>70%</td>
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<td>150%</td>
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<td>205ms</td>
<td>404%</td>
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<td>556ms</td>
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<td>1420ms</td>
<td>82%</td>
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<td>4903ms</td>
<td>3435ms</td>
<td>42%</td>
</tr>
<tr>
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<td>547ms</td>
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<td>597ms</td>
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<td>1899ms</td>
<td>150%</td>
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<td>1736ms</td>
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<td>399ms</td>
<td>564%</td>
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</table>

**Average time Comparison**

![Average time Comparison Graph](image-url)
## Medium Load Single Node

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Average time in 2.10</th>
<th>Average time in 3.0</th>
<th>Improvement</th>
<th>95 percent in 2.10</th>
<th>95 percent in 3.0</th>
<th>Improvement</th>
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<td>3979ms</td>
<td>2387ms</td>
<td>66%</td>
</tr>
<tr>
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<td>306ms</td>
<td>338ms</td>
<td>-9%</td>
<td>805ms</td>
<td>794ms</td>
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## Peak Load Cluster

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<th>Improvement 2.10</th>
<th>Average time in 95% in 2.10</th>
<th>Average time in 95% in 3.0</th>
<th>Improvement 95%</th>
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<td>Average time in 2.10</td>
<td>Average time in 3.0</td>
<td>Improvement</td>
<td>95 percent in 2.10</td>
<td>95 percent in 3.0</td>
<td>Improvement</td>
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<td>Confluence 3.0 Documentation</td>
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<tr>
<td>Reader RSS Page RSS2</td>
<td>6287ms</td>
<td>1109ms</td>
<td>466%</td>
<td>17762ms</td>
<td>4175ms</td>
<td>325%</td>
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<tr>
<td>View Page</td>
<td>3363ms</td>
<td>1345ms</td>
<td>150%</td>
<td>10510ms</td>
<td>4717ms</td>
<td>122%</td>
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<tr>
<td>Reader for Space Page</td>
<td>3069ms</td>
<td>1161ms</td>
<td>164%</td>
<td>9475ms</td>
<td>3023ms</td>
<td>213%</td>
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<td>Search Site</td>
<td>3334ms</td>
<td>378ms</td>
<td>780%</td>
<td>10560ms</td>
<td>1368ms</td>
<td>671%</td>
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<td><strong>Average time Comparison</strong></td>
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<td><strong>95 percent Comparison</strong></td>
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<tr>
<td><strong>Peak Load Single Node</strong></td>
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<tr>
<td><strong>Scenario</strong></td>
<td><strong>Average time in 2.10</strong></td>
<td><strong>Average time in 3.0</strong></td>
<td><strong>Improvement</strong></td>
<td><strong>95 percent in 2.10</strong></td>
<td><strong>95 percent in 3.0</strong></td>
<td><strong>Improvement</strong></td>
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<tr>
<td>Browse Label</td>
<td>4747ms</td>
<td>3207ms</td>
<td>47%</td>
<td>10951ms</td>
<td>7575ms</td>
<td>44%</td>
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<tr>
<td>Commentor submit comment</td>
<td>1517ms</td>
<td>1146ms</td>
<td>32%</td>
<td>4521ms</td>
<td>3611ms</td>
<td>25%</td>
</tr>
<tr>
<td>Commentor view commented page</td>
<td>3148ms</td>
<td>2173ms</td>
<td>44%</td>
<td>9222ms</td>
<td>6184ms</td>
<td>49%</td>
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<tr>
<td>Commentor view page</td>
<td>3302ms</td>
<td>2317ms</td>
<td>42%</td>
<td>9891ms</td>
<td>6410ms</td>
<td>54%</td>
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<td>Creator add page</td>
<td>1693ms</td>
<td>934ms</td>
<td>81%</td>
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<td>3170ms</td>
<td>23%</td>
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<tr>
<td>Creator submit new page</td>
<td>2777ms</td>
<td>1959ms</td>
<td>41%</td>
<td>5812ms</td>
<td>5170ms</td>
<td>12%</td>
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<td>Creator view page</td>
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<td>1065ms</td>
<td>49%</td>
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<td>3358ms</td>
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<td>Dashboard</td>
<td>2121ms</td>
<td>1420ms</td>
<td>49%</td>
<td>5492ms</td>
<td>3704ms</td>
<td>48%</td>
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<td>Editor display page</td>
<td>2216ms</td>
<td>1502ms</td>
<td>47%</td>
<td>5081ms</td>
<td>4233ms</td>
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<td>Edit Page</td>
<td>1714ms</td>
<td>1062ms</td>
<td>61%</td>
<td>4008ms</td>
<td>3452ms</td>
<td>16%</td>
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<tr>
<td>Editor submit edit</td>
<td>3945ms</td>
<td>3205ms</td>
<td>23%</td>
<td>10523ms</td>
<td>9467ms</td>
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<td>Go to log in page</td>
<td>934ms</td>
<td>818ms</td>
<td>14%</td>
<td>4544ms</td>
<td>4091ms</td>
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<td>Log In</td>
<td>807ms</td>
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<td>-11%</td>
<td>2879ms</td>
<td>3531ms</td>
<td>-18%</td>
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<td>Quick Navigation Search</td>
<td>1121ms</td>
<td>568ms</td>
<td>97%</td>
<td>4288ms</td>
<td>2704ms</td>
<td>58%</td>
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<tr>
<td>Reader Not Found</td>
<td>2159ms</td>
<td>1222ms</td>
<td>76%</td>
<td>4265ms</td>
<td>3472ms</td>
<td>22%</td>
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Issues Resolved in Confluence 3.0

Below are the issues resolved in Confluence 3.0, ordered by number of votes. For the full details of the fixes, improvements and new features, please take a look at our issue tracker. You can also take a look at the Confluence 3.0 Release Notes.

<table>
<thead>
<tr>
<th>JIRA Issues (200 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
<th>Votes</th>
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<tbody>
<tr>
<td>CONF-13276</td>
<td>CONF</td>
<td>13276</td>
<td>Restrict anonymous users from viewing user profiles.</td>
<td>Resolved</td>
<td>Fixed</td>
<td>7</td>
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<tr>
<td>CONF-8298</td>
<td>CONF</td>
<td>8298</td>
<td>Reduce the number of directories created under ${confluence.home}/attachments</td>
<td>Resolved</td>
<td>Fixed</td>
<td>5</td>
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<tr>
<td>CONF-14156</td>
<td>CONF</td>
<td>14156</td>
<td>Code Macro - Rich Text Editor removes spaces</td>
<td>Resolved</td>
<td>Fixed</td>
<td>4</td>
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<tr>
<td>CONF-11172</td>
<td>CONF</td>
<td>11172</td>
<td>Line-break markup () uses clear=all style, breaking blog post layout in 2.8</td>
<td>Resolved</td>
<td>Fixed</td>
<td>2</td>
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<tr>
<td>CONF-13823</td>
<td>CONF</td>
<td>13823</td>
<td>Editing a page with columns in RTE overwrites columns width parameter and sets to 100%</td>
<td>Resolved</td>
<td>Fixed</td>
<td>2</td>
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<tr>
<td>CONF-14798</td>
<td>CONF</td>
<td>14798</td>
<td>pdf (viewfile) slide renderer creates vast amounts of garbage which lead to poor</td>
<td>Resolved</td>
<td>Fixed</td>
<td>1</td>
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<tr>
<td>Issue ID</td>
<td>Description</td>
<td>Resolution</td>
<td>Status</td>
<td>Fix Count</td>
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<td>CONF-14248</td>
<td>Exception given when Doc Import tries to create pages with duplicate names</td>
<td>Resolved</td>
<td>Fixed</td>
<td>1</td>
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<tr>
<td>CONF-15986</td>
<td>Page's attachments become inaccessible when page is moved to a different space</td>
<td>Resolved</td>
<td>Fixed</td>
<td>0</td>
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<td>CONF-16184</td>
<td>Lock contentions in didyoumean code</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-14539</td>
<td>The XStream serializer only uses the plugins class loader</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-15376</td>
<td>Gallery Macro XSS</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-15644</td>
<td>Did-you-mean search IncrementalIndexBuilder uses large amount of PermGen memory to store words</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-15146</td>
<td>Saving a page or Switching to wiki markup fails with java.lang.AbstractMethodError: getTextContent error in Weblogic</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-15754</td>
<td>Jira issues add icon mapping configuration is susceptible to XSS</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-15809</td>
<td>Viewfile macros do not respect page restrictions</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-2079</td>
<td>More control over PDF exporting</td>
<td>Resolved</td>
<td>Fixed</td>
<td>232</td>
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<tr>
<td>CONF-5853</td>
<td>Tables in PDF Exports have the same width for every column. Width should be appropriate to the column content.</td>
<td>Resolved</td>
<td>Fixed</td>
<td>96</td>
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<tr>
<td>CONF-12836</td>
<td>Add ability to tune caches from the UI</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-8436</td>
<td>Add support for page breaks in PDF page exports</td>
<td>Resolved</td>
<td>Fixed</td>
<td>25</td>
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<tr>
<td>CONF-8945</td>
<td>Watch emails (change notifications) should contain html diffs</td>
<td>Resolved</td>
<td>Fixed</td>
<td>21</td>
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<tr>
<td>CONF-8302</td>
<td>Allow recently updated macro to filter results by users</td>
<td>Resolved</td>
<td>Fixed</td>
<td>21</td>
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<tr>
<td>CONF-1790</td>
<td>Export Page Hierarchy</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-8071</td>
<td>Generate PDF with specific cover page or custom layout</td>
<td>Resolved</td>
<td>Fixed</td>
<td>17</td>
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<tr>
<td>CONF-7910</td>
<td>PDF Export of wide tables does not resize the table properly to fit the ‘paper’ size.</td>
<td>Resolved</td>
<td>Fixed</td>
<td>15</td>
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<tr>
<td>CONF-1104</td>
<td>Allow configuration of page size and orientation in PDF Export</td>
<td>Resolved</td>
<td>Fixed</td>
<td>14</td>
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<tr>
<td>CONF-8273</td>
<td>Copying a page to a new space should not prepend ‘Copy Of’ to the copied page</td>
<td>Resolved</td>
<td>Fixed</td>
<td>12</td>
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<tr>
<td>CONF-13524</td>
<td>Left navigation theme displays &quot;news operations&quot; instead of &quot;page operations&quot; when viewing the left nav main menu categories</td>
<td>Resolved</td>
<td>Fixed</td>
<td>9</td>
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<tr>
<td>CONF-6750</td>
<td>Custom layouts for PDF exports</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-11552</td>
<td>height and width of embedded movies is changed to 32 by Rich Text Editor</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-12083</td>
<td>Outlook 2007 is unable to read Confluence RSS feeds over HTTPS</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-7225</td>
<td>PDF Export throws an exception when an unterminated macro is used in a heading</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-6756</td>
<td>Improve the Export Space pages selection to allow easy selection of a page and all</td>
<td>Resolved</td>
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<td>CONF-14698</td>
<td>A number of {{FelixOsgiContainerManager}} messages in the logs since the introduction of Atlassian Plugins 2</td>
<td>Fixed 5</td>
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<tr>
<td>CONF-11878</td>
<td>PDF Customization Console</td>
<td>Resolved</td>
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<tr>
<td>CONF-9934</td>
<td>Full screen editor does not autosave to Drafts folder</td>
<td>Fixed 5</td>
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<tr>
<td>CONF-11286</td>
<td>Allow ability to view a users profile after they've created a personal space</td>
<td>Fixed 5</td>
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<tr>
<td>CONF-7027</td>
<td>Wiki markup for graphical emoticons not escaped by rich text editor</td>
<td>Fixed 5</td>
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<tr>
<td>CONF-7491</td>
<td>Escaped (+) and (-) in content revert to emoticons when opening for Edit</td>
<td>Fixed 5</td>
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<tr>
<td>CONF-8034</td>
<td>Serve attachments, including embedded images, with cache headers</td>
<td>Fixed 4</td>
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<tr>
<td>CONF-7398</td>
<td>Make PDF export fonts and styles themeable</td>
<td>Fixed 4</td>
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<td>CONF-14175</td>
<td>Confluence Macro Browser</td>
<td>Fixed 4</td>
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<tr>
<td>CONF-4128</td>
<td>Can’t copy and paste text from Confluence generated PDFs</td>
<td>Fixed 3</td>
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<td>CONF-15040</td>
<td>Confluence 2.10.x incompatible with WebSphere - plugins do not load</td>
<td>Fixed 3</td>
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<td>CONF-14505</td>
<td>Wildcards in &quot;manage user&quot; searches cause performance problems with large LDAP repositories</td>
<td>Fixed 3</td>
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<td>CONF-7623</td>
<td>PDF export is missing the title information from the code macro in the page</td>
<td>Fixed 3</td>
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<td>CONF-9901</td>
<td>Export space to PDF or HTML fails if the space has attachments</td>
<td>Fixed 3</td>
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<tr>
<td>CONF-11799</td>
<td>Editing tables with Rich Text - Tab button jumps to location in Firefox 3</td>
<td>Fixed 3</td>
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<td>CONF-13188</td>
<td>Code macro breaks PDF export when there is a pattern //&lt;keyword&gt; &lt;keyword&gt;</td>
<td>Fixed 2</td>
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<td>CONF-7425</td>
<td>Error in pdf export using content formatting macro</td>
<td>Fixed 2</td>
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<td>CONF-6865</td>
<td>Side by side images will expand across the bottom page margin on PDF Export.</td>
<td>Fixed 2</td>
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<tr>
<td>CONF-5990</td>
<td>export to PDF truncates HTML links to external sites</td>
<td>Fixed 2</td>
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<td>CONF-14791</td>
<td>Confluence doesn't start up on OpenJDK because it requires com.sun.image.codec.jpeg.JPEGImageEncoder</td>
<td>Fixed 2</td>
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<td>CONF-8709</td>
<td>On Space Export screen add the ability to select all children of a page for export</td>
<td>Fixed 2</td>
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<td>CONF-12366</td>
<td>Image width and height are to 32 by wysiwyg editor for missing image files.</td>
<td>Fixed 2</td>
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<td>CONF-14072</td>
<td>Alphabetical listing of pages does not work when there are too many pages beginning with a letter</td>
<td>Fixed 2</td>
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<td>CONF-3904</td>
<td>Hint macro not displaying correctly in page created from PDF Export</td>
<td>Fixed 2</td>
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<tr>
<td>CONF-13933</td>
<td>Add optional diff to email notifications and improve the diffing logic</td>
<td>Fixed 2</td>
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<td>CONF-12634</td>
<td>PDF Exporter doesn't handle situations when JTidy fails</td>
<td>Fixed 2</td>
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<tr>
<td>ID</td>
<td>Description</td>
<td>Resolution</td>
<td>Status</td>
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<td>CONF-13094</td>
<td>Export page tree should be use subtree selection</td>
<td>Fixed 2</td>
<td>Resolved</td>
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<tr>
<td>CONF-7209</td>
<td>Em-dash inserted in Rich Text Edit breaks after saving or changing to WIKI markup mode</td>
<td>Fixed 2</td>
<td>Resolved</td>
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<tr>
<td>CONF-4334</td>
<td>Escaping smileys in wiki markup doesn't work</td>
<td>Fixed 2</td>
<td>Resolved</td>
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<td>CONF-13663</td>
<td>Links within Charting Portlet displaying results inside IFrame</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<tr>
<td>CONF-14491</td>
<td>Add a system property to enable logging of Macros used.</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<td>CONF-14128</td>
<td>Reduce blocking in Velocity when accessing cache</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<tr>
<td>CONF-7412</td>
<td>Text inside code macro displays outside boundaries in exported PDF</td>
<td>Fixed 1</td>
<td>Resolved</td>
<td></td>
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<tr>
<td>CONF-13769</td>
<td>The full screen view has no scroll bar</td>
<td>Fixed 1</td>
<td>Resolved</td>
<td></td>
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<tr>
<td>CONF-13795</td>
<td>Index searcher not properly closed after searches</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<td>CONF-8453</td>
<td>Links created via the Rich Text Editor dialog lose the space character immediately after the link</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<td>CONF-13684</td>
<td>Inserting a link in RTE behaves inconsistently across different browsers</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<td>CONF-6860</td>
<td>Blank lines in a table row are lost in a PDF Export of the table</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<tr>
<td>CONF-14282</td>
<td>Section macro loses parameters when switching between RTE and Wiki Markup</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<td>CONF-7432</td>
<td>PDF export fails when uploaded font contains a space in its path</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<tr>
<td>CONF-7686</td>
<td>PDF Export of page with user macros fail</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<tr>
<td>CONF-14783</td>
<td>Encoding test should use a GET submission to mimic quick search</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<tr>
<td>CONF-8320</td>
<td>Search macro output inconsistent with notation guide</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<td>CONF-13843</td>
<td>Recently-Updated macro throws a BooleanQuery$TooManyClauses exception</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<td>CONF-12058</td>
<td>popular-labels macro doesn't order the labels alphabetically</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<td>CONF-7749</td>
<td>Don't block index readers during index updates and optimization</td>
<td>Fixed 1</td>
<td>Resolved</td>
<td></td>
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<tr>
<td>CONF-14724</td>
<td>Clicking on thumbnail images in IE prompts for download instead of opening popup with large image</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<tr>
<td>CONF-12612</td>
<td>Menus look bad in IE7</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<td>CONF-9736</td>
<td>Large embedded images are converted to a thumbnail size when exported into the PDF format</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<td>CONF-15120</td>
<td>Can't install Office Connector firefox plugin because 'Signing could not be verified'</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<tr>
<td>CONF-14733</td>
<td>Excessive logging during export word page</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<td>CONF-8322</td>
<td>PDF export fails under certain unfortunate naming of pages and headings</td>
<td>Fixed 1</td>
<td>Resolved</td>
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<tr>
<td>Issue Key</td>
<td>Description</td>
<td>Resolution Status</td>
<td>Current Fix Count</td>
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<td>CONF-9603</td>
<td>Restore recent activity to a user profile screen</td>
<td>Resolved</td>
<td>Fixed 1</td>
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<tr>
<td>CONF-15450</td>
<td>If a user has no text in their profile, XML-RPC calls throw a null pointer exception (NPE)</td>
<td>Resolved</td>
<td>Fixed 1</td>
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<tr>
<td>CONF-14222</td>
<td>i18n support for macro browser</td>
<td>Resolved</td>
<td>Fixed 1</td>
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<tr>
<td>CONF-13814</td>
<td>Error removing space with custom space logo and attachments stored in the database</td>
<td>Resolved</td>
<td>Fixed 1</td>
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<td>CONF-8647</td>
<td>Removing an entire table in Rich Text Editor is not intuitive</td>
<td>Resolved</td>
<td>Fixed 1</td>
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<tr>
<td>CONF-13825</td>
<td>NullPointerException when thumbnail cannot be generated</td>
<td>Resolved</td>
<td>Fixed 1</td>
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<tr>
<td>CONF-10166</td>
<td>Inconsistent escaping of emoticons in rich-text edit mode</td>
<td>Resolved</td>
<td>Fixed 1</td>
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<tr>
<td>CONF-12894</td>
<td>Slow page rendering when using Confluence via HTTPS / SSL due to lack of caching</td>
<td>Resolved</td>
<td>Fixed 1</td>
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<td>CONF-14029</td>
<td>Javascript error on &quot;Add Members&quot; in Manage Groups in IE</td>
<td>Resolved</td>
<td>Fixed 1</td>
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<td>CONF-14462</td>
<td>User Status</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-14094</td>
<td>Confluence Support Request Improvements</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-14387</td>
<td>Formatting problems in PDF export</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<tr>
<td>CONF-14438</td>
<td>Deprecate com.atlassian.confluence.util.io.IOUtils</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<tr>
<td>CONF-14495</td>
<td>Remove public logger in VersionedHibernateObjectDao</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<tr>
<td>CONF-14490</td>
<td>Add the ability to Hibernate to have more than one index per column</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-15399</td>
<td>Contributors Macro noneFoundMessage XSS Vector</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-14516</td>
<td>Only acquire a lock for deferred operations cache if neccessary</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-14517</td>
<td>Look and Feel improvements to User Profile</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-14533</td>
<td>Expose the id in content name search results</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-16133</td>
<td>WebDAV plugin documentation is out dated on CAC</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-16073</td>
<td>(contentbylabel) macro does not filter results based on comments</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-5415</td>
<td>Investigate performance gains of multicolumn and functional indexes in Postgres</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-7484</td>
<td>Pages with image larger than the PDF ‘paper’ size will cause a failure during PDF export.</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-15935</td>
<td>Improve upgrade guide with some performance tips</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<td>CONF-15397</td>
<td>Instant Messenger Macro XSS Vector</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<tr>
<td>CONF-14523</td>
<td>Insert macro form for macros that don’t provide parameter metadata</td>
<td>Resolved</td>
<td>Fixed 0</td>
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<tr>
<td>CONF</td>
<td>Issue Description</td>
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<td>CONF-14531</td>
<td>Add filtering/search box to macro browser</td>
<td>Resolved</td>
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<td>CONF-12573</td>
<td>Enable automatic HTML encoding by default</td>
<td>Resolved</td>
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<tr>
<td>CONF-16495</td>
<td>User cannot update the page which contains pagetree macro when it is updated using XMLRPC</td>
<td>Resolved</td>
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<td>CONF-2333</td>
<td>PDF Export created on Linux server cannot be opened in Adobe AcrobatReader.</td>
<td>Resolved</td>
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<tr>
<td>CONF-14431</td>
<td>Write Anti-XSS documentation for plugin developers</td>
<td>Resolved</td>
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<tr>
<td>CONF-6864</td>
<td>When a note macro is split between pages in a PDF export the second part loses its style</td>
<td>Resolved</td>
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<td>CONF-14651</td>
<td>Improve cluster performance by avoiding cache puts for already-cached objects</td>
<td>Resolved</td>
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<td>CONF-14689</td>
<td>Comment edits do not trigger email notification</td>
<td>Resolved</td>
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<td>CONF-14705</td>
<td>Workaround for authentication login prompt when editing Microsoft Office files</td>
<td>Resolved</td>
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<td>CONF-11500</td>
<td>Disabling daily Backups on one node in a cluster does not reflect on other nodes in the cluster</td>
<td>Resolved</td>
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<td>CONF-14707</td>
<td>Better Cache/Queue management for the Office Connector</td>
<td>Resolved</td>
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<td>CONF-14213</td>
<td>Correct MySQL collation for Confluence database.</td>
<td>Resolved</td>
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<td>CONF-14981</td>
<td>Viewfile macro with a word document throws java.lang.ArrayIndexOutOfBoundsException: -10</td>
<td>Resolved</td>
<td>0</td>
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<tr>
<td>CONF-14073</td>
<td>Deprecate ThumbnailInfoFactory</td>
<td>Resolved</td>
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<td>CONF-14984</td>
<td>Update green arrows on the blog calendar display</td>
<td>Resolved</td>
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<td>CONF-14969</td>
<td>Remove &quot;Open Web Folder&quot; link from attachment lists</td>
<td>Resolved</td>
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<tr>
<td>CONF-14735</td>
<td>Update Usernames in Notifications table to match LDAP users with different case</td>
<td>Resolved</td>
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<td>CONF-13490</td>
<td>Attachments can be moved to a page which the user cannot access</td>
<td>Resolved</td>
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<td>CONF-12264</td>
<td>Extra newline appears when converting to H2 in a new page</td>
<td>Resolved</td>
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<td>CONF-15061</td>
<td>Extract build information responsibilities from GeneralUtil</td>
<td>Resolved</td>
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<td>CONF-13270</td>
<td>Fix slow start-up caused by AspectJ hitting the plugin classloader too often</td>
<td>Resolved</td>
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<td>CONF-14294</td>
<td>Check cache sizes and increase if necessary</td>
<td>Resolved</td>
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<td>CONF-15267</td>
<td>Import Pages is not restricted to system admins</td>
<td>Resolved</td>
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<td>CONF-13776</td>
<td>Default panel background colour does not apply in PDF export</td>
<td>Resolved</td>
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<td>CONF-15059</td>
<td>Deprecate com.atlassian.confluence.cache.CacheManagerKeys</td>
<td>Resolved</td>
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<td>CONF-11749</td>
<td>Uploaded pdf fonts break when the home directory is moved.</td>
<td>Resolved</td>
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<td>ID</td>
<td>Description</td>
<td>Resolution</td>
<td>Fixed</td>
<td>Issue Type</td>
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<td>CONF-15073</td>
<td>Add web-items plugin point on Dashboard for navigation items similar to the Page and BlogPost pages</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-14688</td>
<td>Improve performance of HtmlSafe annotation checking</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-9038</td>
<td>PDF Generation fails when bgcolor wiki markup is used</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-15385</td>
<td>Confluence runs out of file handles when running the did you mean index job in our performance build</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-15119</td>
<td>Update to atlassian-plugins 2.2</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-15157</td>
<td>viewfile macro does not work for non printable PDFs</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-15484</td>
<td>Cache personal information objects to improve performance</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-15396</td>
<td>Improve performance of TransactionalCacheFactory</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-5782</td>
<td>Selecting several lines and applying the heading style produces incorrect markup</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-15251</td>
<td>Remove Table Layout from Profile Pages</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-13858</td>
<td>Rendering of insert table dialog poor</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-14015</td>
<td>500page.jsp always reports Confluence as anonymous</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-15531</td>
<td>BuildNumberCondition would make it easier to control display of web items in plugins</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-15534</td>
<td>Add a new search filter to allow in place pagination of search results</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-15550</td>
<td>Remove dependency on atlassian-bucket</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-14085</td>
<td>Document confluence.jmx.disabled system property</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-14093</td>
<td>Implement Hibernate's ReadWriteCache in a non blocking way</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-14011</td>
<td>ConfluenceVelocityResourceCache causes stack overflow if &quot;A FakeSerializableResource has been serialized&quot;</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-14445</td>
<td>Doc update: Component plugin modules are not treated as StateAware in OSGi plugins</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-14081</td>
<td>Allow disabling of JMX via a system property</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-13865</td>
<td>Admin users should be able to see content in all spaces when using QuickNav</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-13945</td>
<td>History version comparison should never be a POST</td>
<td>Resolved</td>
<td>Fixed</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14121</td>
<td>Use putAll() instead of put() on the Coherence cache</td>
<td>Resolved</td>
<td>Fixed</td>
<td>0</td>
<td></td>
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</tr>
<tr>
<td>CONF-14098</td>
<td>Remove unnecesary sychronization on Hibernates UpdateTimestampsCache</td>
<td>Resolved</td>
<td>Fixed</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14422</td>
<td>All attachments versions loaded when you query for just one</td>
<td>Resolved</td>
<td>Fixed</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-13911</td>
<td>Using heading formats in lists and tables inserts unwanted new lines @ cursor</td>
<td>Resolved</td>
<td>Fixed</td>
<td>0</td>
<td></td>
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</tr>
<tr>
<td>ID</td>
<td>Description</td>
<td>Status</td>
<td>Resolution</td>
<td></td>
<td></td>
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<td>-----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>CONF-13917</td>
<td>Improve performance by caching Userprofile-Pictures and Space-logos</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-13893</td>
<td>Add context menus for the RTE</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15703</td>
<td>One pagetree-macro in a pagelayout prevents another pagetree-macro on a page from working correctly</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-13775</td>
<td>Creating headings in the RTE &amp; Firefox causes empty headings also be created</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15253</td>
<td>Jsonator does not encode string according to the spec</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14823</td>
<td>Dynamic tasklist, widget macros and plugin repository don't work after upgrade to Confluence 2.10.1 or 2.10.2</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-7633</td>
<td>Error in PDF Export after the first call of a sql-macro producing a table output</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15643</td>
<td>Sensible default settings for Remote API and Public Sign Up</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14938</td>
<td>viewfile causing OutOfMemoryError for Powerpoint files that contain embedded PICT file (Mac OS X)</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-13469</td>
<td>Replace LuceneSmartListManager with V2SearchSmartListManager and ensure backwards compatibility</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-12191</td>
<td>Page title font should match the header fonts when printing</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-13215</td>
<td>Cancelling content-creation partially broken and inconsistent</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14059</td>
<td>synchronization inside ognl.EvaluationPool is a performance bottleneck in high load instances</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11576</td>
<td>Add a remove link button to the Rich Text editor</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14434</td>
<td>Display the most recent edit by a user, even if other users edited the same pages afterwards</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15345</td>
<td>Follow macro does not render the 'Full theme' (large icons) when previewing it either in the Macro Browser or on the page itself in IE7.</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15720</td>
<td>Include-Excerpt macro doesn't include excerpts until the page has been viewed</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9615</td>
<td>Cluster information page should tell you which node you're currently on.</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-13004</td>
<td>Attachment directory needs to be hashed to avoid filesystem limitations</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14272</td>
<td>Remove deprecated ThumbnailManager classes</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14257</td>
<td>Avatars should be served with proper cache control headers</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-15660</td>
<td>Big dimension of image file crashes Confluence when we tries to export the page to PDF.</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-13846</td>
<td>Wildcard and range queries always converted to lower case</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-13844</td>
<td>Allow plugins to indicate whether they should be subject to automatic HTML encoding</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14343</td>
<td>Add and display macro parameter descriptions in macro browser</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-14273</td>
<td>Reduce DB load for loading pages</td>
<td>Resolved</td>
<td>Fixed 0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Above are the issues resolved in Confluence 3.0, ordered by number of votes. For the full details of the fixes, improvements and new features, please take a look at our issue tracker.

**Confluence 2.10.4 Release Notes**

Confluence 2.10.4 is the standard edition version of Confluence 2.10.x. This version of Confluence is equivalent to Confluence version 2.10.3, but it does not include Oracle's Coherence technology. Due to licensing changes with Oracle over the Coherence clustering and distributed caching technology, Atlassian is no longer able to distribute this technology to customers without a Confluence clustered license.

Therefore, Atlassian has released 'standard editions' for each previous major version of Confluence back to 2.6, which includes Confluence versions 2.10.4, 2.9.3, 2.8.3, 2.7.4 and 2.6.3. Confluence 2.10.4 will be the only Confluence 2.10.x version available to customers with a non-clustered Confluence license.

For its caching functionality, Confluence 2.10.4 utilises Ehcache. This functionality was provided by the Coherence technology in previous Confluence 2.10.x versions.

For more information about the features, updates and fixes in Confluence 2.10.3, please refer to the Confluence 2.10.3 Release Notes.

**Upgrading from a Previous Version of Confluence**

Upgrading Confluence should be fairly straightforward. Please read the Confluence 2.10.3 Upgrade Notes. However, if you have customised the cache settings in your installation of Confluence (e.g. for performance reasons), then please read the Confluence 3.0.1 Upgrade Notes for important information about transferring your caching layer customisations from Coherence to Ehcache.

We **strongly recommend** that you back up your **confluence.home** directory and database before upgrading.

**Confluence 2.10.3 Release Notes**

**15 April 2009**

Confluence 2.10.3 is a recommended upgrade which fixes some security flaws and other issues.

Please refer to the **security advisory** for details of the security vulnerabilities, risk assessments and mitigation strategies.

**General Fixes**

A bug was identified, whereby viewing or editing restrictions could not be assigned to a page, whose parent page contained an apostrophe in its title and also possessed existing page restrictions. This bug has now been fixed.
When a user is restricted from viewing a page, Confluence presents them with a more informative **Access Denied** error rather than a general **Page Not Found** error.

When the {gallery} macro is used on a page with no parameters or image attachments, it would render into an error in HTML or PDF exports. This issue has now been fixed.

An issue was identified whereby under certain circumstances, clicking on a page’s or blog’s thumbnail image to expand it would result in a Runtime Error in Internet Explorer versions 6 and 7. This issue has now been fixed.

**Widget Connector Plugin**

Several new features have been added to the Widget Connector Plugin packaged with Confluence 2.10.3, including support for new widget, video and micro-blogging sites. Other supported features include Google Calendar and the Wufoo HTML Form Builder. For more information on how to add these features to your Confluence page or blog, refer to the **Widget Macro**.

Episodic made changes to the format of IDs they designate for all new videos, allowing them to be alphanumeric rather than solely numeric. The Widget Connector plugin has been updated to support this new URL format.

**Engine Room Fixes**

An issue was identified in Confluence’s PDF Export feature that could result in memory leaks. These in turn may have affected the performance and stability of Confluence instances. This issue has now been fixed.

A few other issues were identified which under certain or specific circumstances, could affect the stability of Confluence. However, these have now been fixed.

There’s a complete list of fixes below. Click a specific issue to see details of the fix.

**Don’t have Confluence 2.10 yet?**

Take a look at the new features and other highlights in the **Confluence 2.10 Release Notes**.

[Download Latest Version]

**Upgrading from a Previous Version of Confluence**

Upgrading Confluence should be fairly straightforward. Please read the **Confluence 2.10.3 Upgrade Notes**. We strongly recommend that you back up your `confluence.home` directory and database before upgrading.

**Updates and Fixes in this Release**

<table>
<thead>
<tr>
<th>JIRA Issues (30 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONF-15541</td>
<td>Previewing a page does not display long content when Confluence is embedded in a frame</td>
<td><img src="iconResolved.png" alt="Resolution" /></td>
<td><img src="iconResolved.png" alt="Status" /></td>
<td>Invalid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-15538</td>
<td>em dash in the attachment causes Confluence’s crash</td>
<td><img src="iconResolved.png" alt="Resolution" /></td>
<td><img src="iconResolved.png" alt="Status" /></td>
<td>Duplicate</td>
<td></td>
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<tr>
<td></td>
<td>CONF-14988</td>
<td>SAXParser memory leaks</td>
<td><img src="iconResolved.png" alt="Resolution" /></td>
<td><img src="iconResolved.png" alt="Status" /></td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-14922</td>
<td>com.sun.pdfview.font.Type1CFont.readCommand(Type1CFont.java:357) consumes 100% CPU, blocks all other pdf threads</td>
<td><img src="iconResolved.png" alt="Resolution" /></td>
<td><img src="iconResolved.png" alt="Status" /></td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-14849</td>
<td>Discarding a draft and refreshing the page results in an error</td>
<td><img src="iconResolved.png" alt="Resolution" /></td>
<td><img src="iconResolved.png" alt="Status" /></td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-14775</td>
<td>Add new filter and refreshing the page results in an error</td>
<td><img src="iconResolved.png" alt="Resolution" /></td>
<td><img src="iconResolved.png" alt="Status" /></td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-14753</td>
<td>XSS vulnerability can be exploited with the Page Index macro</td>
<td><img src="iconResolved.png" alt="Resolution" /></td>
<td><img src="iconResolved.png" alt="Status" /></td>
<td>Fixed</td>
<td></td>
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<tr>
<td></td>
<td>CONF-14704</td>
<td>Improper sanitisation of attachment filenames allows header injection</td>
<td><img src="iconResolved.png" alt="Resolution" /></td>
<td><img src="iconResolved.png" alt="Status" /></td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-14537</td>
<td>Can not alter the permissions on a page, if the parent page has permissions and the parent has an apostrophe in the page name. Similar to CONF-10717</td>
<td><img src="iconResolved.png" alt="Resolution" /></td>
<td><img src="iconResolved.png" alt="Status" /></td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-14510</td>
<td>Fix upgrade tasks that access the database through a connection from the HibernateSession which is later garbage collected</td>
<td><img src="iconResolved.png" alt="Resolution" /></td>
<td><img src="iconResolved.png" alt="Status" /></td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-14493</td>
<td>Password is being logged for 500 errors</td>
<td><img src="iconResolved.png" alt="Resolution" /></td>
<td><img src="iconResolved.png" alt="Status" /></td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>
CONF-14386 Empty gallery macro throws error in HTML and PDF export
Resolved
Fixed

CONF-14337 XSS in the Widget Connector
Resolved
Fixed

CONF-14326 Site search query box and submit button too small with Left Nav theme and Clickr theme
Resolved
Fixed

CONF-14310 Studio plugins: Using components not available to plugins
Resolved
Fixed

CONF-14178 System error when adding users to a group if the group name contains a space
Resolved
Fixed

CONF-14127 New evaluation expiry message
Resolved
Fixed

CONF-14102 anti-XSS mode breaks RTE-by-default editing and view page source
Resolved
Fixed

CONF-14092 AspectJ caused CAC crash 2008-12-31
Resolved
Fixed

CONF-13785 Errors when exporting demonstration space after migration to 2.10-m8
Resolved
Fixed

CONF-13771 HTML export results in NPE from requireResource velocimacro when used by plugins
Resolved
Fixed

CONF-13494 SOAP calls break when trying to write (tasklist) macro in contents
Resolved
Fixed

CONF-13331 Search box display issue when not using default theme in IE and FireFox
Resolved
Fixed

CONF-13316 NullPointerException thrown if user cannot move attachments
Resolved
Fixed

CONF-13063 Confluence Advanced Search Pane search text box is flattened vertically in 2.91 using Left Navigation Theme
Resolved
Fixed

CONF-12835 Error in Java Script when adding an image thumbnail and clicking on it
Resolved
Fixed

CONF-12366 Image width and height are to 32 by wysiwyg editor for missing image files.
Resolved
Fixed

CONF-11552 height and width of embedded movies is changed to 32 by Rich Text Editor
Resolved
Fixed

CONF-9239 "Page not found" (404) is displayed to users without view permissions, should be "Access denied"
Resolved
Fixed

CONF-8130 image link breaks if the target is renamed
Resolved
Fixed

Click here to open a report on http://jira.atlassian.com for Resolved or Closed issues in Confluence 2.10.3.

Confluence 2.10.3 Upgrade Notes

Confluence 2.10.3 is a recommended upgrade which fixes some security flaws as well as other bugs. You’ll find details of the fixes in the release notes.

Upgrade Procedure

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your confluence.home directory and database.

2. If your version of Confluence is earlier than 2.10, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 2.10 upgrade notes.
   - If you are upgrading from 2.1 or earlier, please also read the 2.2 release notes.

3. Download the latest version of Confluence.
4. Follow the instructions in the Upgrade Guide.

Confluence 2.10.2 Release Notes

18 February 2009

Confluence 2.10.2 is a recommended upgrade which fixes a security flaw and other issues.

Please refer to the security advisory for details of the security vulnerability, risk assessment and mitigation strategies.

Rich Text Editor fixes

A bug was identified in Confluence version 2.10, which affected the Rich Text Editor in Internet Explorer browsers. This bug prevented new content that was entered into a single line break between existing chunks of text from being saved. For instance, if a user placed their cursor on a single blank line (or line break) between two existing sections of text, entered new text (consisting of any number of paragraphs) and saved it, the new text would not be saved. This issue has now been fixed.

Another issue was identified in the Rich Text Editor which made text appearing immediately under an image concatenate with the image's Wiki Markup when the page content was saved. This prevented the image from being displayed. While inserting an additional line break between the image and text provided a workaround, this issue has now been fixed and this workaround is no longer required.

Content by Label Macro fixes

A bug was identified in the Content by Label Macro that prevented its sort parameter from functioning correctly. However, this has now been fixed. Furthermore, the performance of the Content by Label Macro has been improved.

With the release of Confluence 2.10, the default behaviour of the Content by Label Macro's space parameter was modified to @self. Due to customer feedback and popular demand, however, we reverted this parameter's default behaviour back to @all.

Other fixes

A stability issue was identified in Confluence version 2.10 which has now been fixed. However, a minor side effect has been identified which can result in some superfluous non-breaking spaces not being removed from the end of lines, when either saving a page or switching from the Rich Text Editor to Wiki Markup modes.

A bug was identified in Confluence version 2.10 that prevented Confluence from playing SWF files with Flash Player 10 in Internet Explorer. This has now been fixed.

Some issues were identified with the Code Block Macro in Confluence 2.10, which resulted in the removal of white space within a code block when switching from Wiki Markup to Rich Text Editor modes. However, a fix was introduced to mitigate these issues.

An issue was identified when Viewing Pages Alphabetically, which prevented Confluence from listing pages by specific letters of the alphabet when 1,000 or more pages started with any one letter of the alphabet. This issue has now been fixed.

When writing content in Wiki Markup, URLs containing accented characters now render correctly into links. Additionally, Confluence's French and German product interface translations have been improved.

There's a complete list of fixes below. Click a specific issue to see details of the fix.

Don't have Confluence 2.10 yet?

Take a look at the new features and other highlights in the Confluence 2.10 Release Notes.

Download Latest Version

Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the Confluence 2.10.2 Upgrade Notes. We strongly recommend that you back up your conffluence.home directory and database before upgrading.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues (47 issues)</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-14840 Update Java Policy Security page for 2.10.x</td>
<td></td>
<td></td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-14744 Users may have to rebuild indices after performing migration</td>
<td></td>
<td></td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-14451 Attachments on Comments will not be indexed correctly</td>
<td></td>
<td></td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-14449 Attachment Manager allows for storing data against history versions of a page</td>
<td></td>
<td></td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-14429</td>
<td>&quot;java.lang.NullPointerException at java.util.regex.Matcher.getTextLength(Unknown Source)&quot; when importing a .doc file</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14424</td>
<td>Append new line character to end of code macro to mitigate loss of spaces in code macro</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14333</td>
<td>Internal system information is shown on the GUI for list of restricted pages</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14311</td>
<td>Document new Web UI plugin location</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14275</td>
<td>HTTP Header Injection vulnerability: os_destination value not properly escaped when used as redirect location</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14255</td>
<td>Disallow adding a child page under a page it cannot view in default theme</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14152</td>
<td>stylesheet.page.description in Colour Screen help tips</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14138</td>
<td>Confluence installed as a service seems to be started but the server start actually fails</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14136</td>
<td>Typo in screenshot for attachment migration documentation</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14129</td>
<td>Exporting to Word in anti-XSS mode will include html tags</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14119</td>
<td>Typo in warning message when changing Attachment Storage Configuration</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14101</td>
<td>HTML export skips file attachments with space characters (blanks) in their name</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14094</td>
<td>Confluence Support Request Improvements</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14069</td>
<td>Remote API rename feature should not allow duplicate titles</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14048</td>
<td>Incorrect German Translation for &quot;Sign Up&quot;</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14047</td>
<td>Remove contextPath from drop-down.js</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14023</td>
<td>Content By Label macro now defaults to showing content from the current space only</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14020</td>
<td>Upgrade to latest atlassian-gzipfilter to fix remote APIs</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14018</td>
<td>Rich Text mode doesn't save changes between linebreaks in IE</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14006</td>
<td>Get 500 when trying to communicate to confluence via trusted apps.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-14002</td>
<td>HTML export: Attachments are missing filetypes/extensions</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-13974</td>
<td>Confluence does not play SWF file in Internet Explorer when using Flash Player 10 (it works when using flash player 9)</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-13965</td>
<td>CPU Spike: DefaultWysiwygConverter.convertXHtmlToWikiMarkup risks blowing the stack</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-13937</td>
<td>Incorporate more German and French Translations</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-13825</td>
<td>NullPointerException when thumbnail cannot be generated</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-13824</td>
<td>Images and text concatenated by RTE save operation, also causing image markup to be escaped.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>Issue Key</td>
<td>Description</td>
<td>Resolution</td>
<td>Status</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>CONF-13707</td>
<td>Inserting image of size bigger than attachment limit yields &quot;Page Not Found&quot; error</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-13694</td>
<td>PATCH: Confluence sets incorrect content type for css files bundled in war</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-13677</td>
<td>Cannot update the name of a space using storeSpace(String in0, RemoteSpace in1)</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-13588</td>
<td>Users should not have to click Refresh to update their license count after removing a user</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-13435</td>
<td>mismatched tag. Expected: &lt;/div&gt;</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-13119</td>
<td>Pressing the search button always appends previous search query to proposed new query.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-13028</td>
<td>Paging to the ninth result set of any pagination displays &quot;one&quot; twice in pagination choices</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-12809</td>
<td>Anonymous Users can still see links to the people directory even when disabled</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-12707</td>
<td>Accented characters (all non-ascii?) cause link rendering to fail</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-12475</td>
<td>RSS feeds created by Space-&gt;Advanced -&gt;Rss Feeds do not respect the base server url</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-11795</td>
<td>Export With (toc) Causes NullPointerException</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-10174</td>
<td>Pages created with restrictions show restrictions as created by Anonymous</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9715</td>
<td>Confluence crash can result in empty confluence.cfg.xml file.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9635</td>
<td>System Error when accessing via a TinyURL that ends with a dash</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9213</td>
<td>PageManager can create Duplicate Pages</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-8865</td>
<td>Improve content-by-label macro performance</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5322</td>
<td>Add sorting options to the contentbylabel macro</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
</tbody>
</table>

Click [here](http://jira.atlassian.com) to open a report on [http://jira.atlassian.com](http://jira.atlassian.com) for Resolved or Closed issues in Confluence 2.10.2.

**Confluence 2.10.2 Upgrade Notes**

Confluence 2.10.2 is a recommended upgrade which fixes some security flaws as well as other bugs. You'll find details of the fixes in the release notes.

**Upgrade Procedure**

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you **back up your confluence.home directory and database**.

2. If your version of Confluence is earlier than 2.10, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the [2.10 upgrade notes](http://jira.atlassian.com).
   - If you are upgrading from 2.1 or earlier, please also read the [2.2 release notes](http://jira.atlassian.com).

3. **Download** the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

**Confluence 2.10.1 Release Notes**

7 January 2009
Confluence 2.10.1 is a recommended upgrade which fixes some security flaws and other issues.

Please refer to the security advisory for details of the security vulnerabilities, risk assessment and mitigation strategies.

A bug was identified in Confluence version 2.10.0 that made the label parameter of the Content by Label Macro case-sensitive. This resulted in link breakages where differences existed in case usage between [contentbylabel] label parameter values and the page labels they referenced. However, this issue has now been fixed.

Another issue was identified in Confluence version 2.10.0 that prevented specific Confluence components (for example, those of the Rich Text Editor) from loading correctly when running Confluence behind certain proxy server configurations. For example, this may have become apparent when running Confluence behind an Apache HTTP Server using the mod_proxy connection module. This issue has also been fixed in Confluence version 2.10.1, along with a number of other issues.

There's a complete list of fixes below. Click a specific issue to see details of the fix.

Don't have Confluence 2.10 yet?

Take a look at the new features and other highlights in the Confluence 2.10 Release Notes.

Download Latest Version

Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the Confluence 2.10.1 Upgrade Notes. We strongly recommend that you back up your confluence.home directory and database before upgrading.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues (23 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
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<tbody>
<tr>
<td></td>
<td>CONF-14329</td>
<td>viewfile macro does not work in case of umlauts in attachment name</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
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<td>CONF-14108</td>
<td>Recently Updated Macro Documentation Needs update</td>
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<td><img src="https://example.com/png" alt="Fixed" /></td>
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<tr>
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<td>CONF-14049</td>
<td>Clarify source code shipped with product</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
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<td></td>
<td>CONF-14033</td>
<td>Documentation on support for platforms not x86 is unclear</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>CONF-14032</td>
<td>Office Connector plugin shows vendor as unknown in the Plugin Manager</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
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<tr>
<td></td>
<td>CONF-14026</td>
<td>Upgrade to Atlassian Plugins 2.1.3</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
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<td></td>
<td>CONF-14015</td>
<td>500page.jsp always reports Confluence User as anonymous</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
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<tr>
<td></td>
<td>CONF-14014</td>
<td>Word import with Office Connector can overwrite existing content without permission</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
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<td></td>
<td>CONF-13998</td>
<td>In SharedMode the SpaceGroupFilter will filter out all search results if the user is not an administrator</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
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<tr>
<td></td>
<td>CONF-13987</td>
<td>Confluence 2.10 Standalone Default SSL Implementation Not Compatible With Tomcat 6</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
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<tr>
<td></td>
<td>CONF-13969</td>
<td>Content By Label macro now uses case sensitive label names</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>CONF-13942</td>
<td>Rich Text editor does not display when Confluence is running behind Apache</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-13934</td>
<td>The &quot;purchasing it&quot; link at the footer of a Confluence page (under an Evaluation Licence) is incorrect.</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>CONF-13930</td>
<td>confluence-2.10-std README file needs to correct the jdk version.</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-13900</td>
<td>Plugin being disabled after being upgraded or re-enabled</td>
<td><img src="https://example.com/png" alt="Resolved" /></td>
<td><img src="https://example.com/png" alt="Fixed" /></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Confluence 2.10.1 Upgrade Notes

Confluence 2.10.1 is a recommended upgrade which fixes some security flaws as well as other bugs. You'll find details of the fixes in the release notes.

Upgrade Procedure

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your confluence.home directory and database.

2. If your version of Confluence is earlier than 2.10, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 2.10 upgrade notes.
   - If you are upgrading from 2.1 or earlier, please also read the 2.2 release notes.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

Confluence 2.10 Release Notes

Confluence 2.10 fixes some security flaws. Please refer to the security advisory for details of the security vulnerabilities, risk assessment and mitigation strategies.

3 December 2008

With great pleasure, Atlassian presents Confluence 2.10.

Confluence 2.10 is a major release which presents a number of new features and enhancements. With Confluence 2.10 we introduce the new Widget Connector, an easy way to embed multi-media content from all over the web directly into your Confluence page. Add Youtube videos, Flickr slide shows and Google Gadgets just to name a few. Now that the improved Office Connector is bundled with Confluence 2.10, you can also display the contents of attached documents, spreadsheets, presentations, and PDFs directly on any page. Also, with the new Office Connector, you can now view the contents of attachments using the new 'View' feature from the attachments page, or from a search.

In Confluence 2.10, finding all your content in Confluence is a lot easier. With Quick Navigation just start typing in the search box and immediately see suggested results. With OpenSearch autodiscovery, you can add Confluence search to your Firefox or IE7 search box with just one click. And with 'Did You Mean', you no longer have to worry about mistyping search terms since Confluence now suggests corrections to misspelled words. Take a look at the new search results page, you'll find the right page, attachment or person far more easily.

You can better control your avatar with new profile picture cropping and spruce up your personal space with custom stylesheets. Page editing has become more reliable through an upgrade to our rich text editor which now supports Safari and has a new styles dropdown. JIRA users will be delighted to use our new JIRA Issues Macro with drag and drop column sorting, paging and support for custom fields.

Confluence administrators will benefit from improved user management, a broader range of supported wikis for the Universal Wiki Converter and some good performance improvements.

Please see our overview video to see a demonstration of the new features in Confluence 2.10.

Highlights of this Release:
Introducing the Widget Connector
Now you can embed multi-media content from other web sites into a Confluence page. Bring your wiki page to life with Google Gadgets, videos, slide shows, Twitter messages and more. Simply type the word '{widget}' and give it the web address of the content you want to embed.

- Gadgets: Google Gadgets.
- Photos and images: Flickr, Skitch.com.
- Micro-blogging: Twitter, FriendFeed.
- Documents and presentations: SlideShare, SlideRocket, Scribd, presentations on Google Docs.
- Our documentation shows you what to do.
Improved Office Connector Now Bundled

The Office Connector is shipped as part of Confluence 2.10. There is no need to install it separately. Use the Office Connector to create and edit rich content for Confluence using Microsoft Office or OpenOffice.

- The new 'View' feature lets you view Office documents from the Search results, from the Attachments page and from a list of attachments displayed by the Attachments macro. You do not need to have Office installed on your machine to view an Office document in Confluence.
- We have also fixed a number of bugs in the Office Connector. See the list of fixes.
- See all the features of the Office Connector in our documentation.
Introducing Quick Navigation

Confluence's search box now offers a quick navigation feature, the fastest way to find content in Confluence.

- Start typing your search term. Confluence matches titles as you type, showing a quickly-adjusting list of pages, news items, personal profiles, attachments and so on.
- The matching items are grouped by content type so that you can quickly find the type you want.
- When the matching item is a person's name, their profile picture appears next to their name in the list.
- Still not found what you are looking for? Click the 'Search' option at the bottom of the list to do a full search.
Confluence 2.10 includes a number of improvements to the Search functionality.

- Find what you're looking for even if you mistype your search term. Confluence's new 'Did you mean' feature analyses your search term and suggests an alternative spelling to give you more relevant search results.
- You can now search Confluence from the convenience of your browser's search box, if you are using Firefox or IE7. Just add your Confluence site as a search provider, via the dropdown menu next to the browser's search box. This is because Confluence now supports the autodiscovery part of the OpenSearch standard.
- We have also improved the layout of the Search screen so that it is easier to read. The titles now stand out more and a longer extract is shown.
- If the matching item is a person, the profile picture and other profile information appear in the search results.
- If the matching item is an attached Office document, a new 'View' link allows you to view the document online.
- There is a search box at the bottom as well as the top of the screen, so you do not need to scroll up to enter a new search term.
- The 'Clear Filter' link replaces the old 'Clear Search', and now just clears the filter criteria instead of the entire search.
- When ranking the search results, Confluence now gives slightly higher priority to pages created recently.
- Take a look at our documentation for full details of the new features.
Custom Stylesheets for Confluence Spaces

Change the look of your Confluence space by specifying your own CSS styles. Cascading Style Sheets (CSS) are the standard way of styling web pages.

- For example, you might choose to change the background for the header at the top of each Confluence page. See our tutorial.
- Or you might change the look of the tabs in your Space Admin screens, as described in this example.
- To get started, take a look at our documentation.
Updated JIRA Issues Macro with Custom Fields and Dynamic Display

The JIRA Issues macro now gives you more control both when viewing the output and when coding the macro.

- Specify any JIRA field as a column for display, including custom fields.
- Drag and drop the columns into a different order.
- Temporarily remove a column from the display.
- Click the triangle at top right of the issue table to collapse the table.
- Retrieve a page of issues at a time, rather than a huge list all at once.
- Take advantage of the improved performance of your JIRA site. The JIRA Issues macro now caches the results for anonymous users and for results retrieved using trusted communication. This should improve the performance of your JIRA site if you have set it up for trusted communication, because Confluence no longer needs to access the JIRA site as often.
- Our documentation tells you how to use the macro.
Enhanced User and Group Management

Searching for users and adding users to groups is now much easier.

- You can add and remove users directly from the group management screen. This allows you to manage the group membership for a number of users at the same time.
- The new user search offers a simple and an advanced option. With the simple option, just type all or part of the person's name, username or email address. If you want to restrict your search, use the advanced option to specify the field you want searched. Or you can search for users in a specific group.
- A new user picker lets you select the people you need from the list of matching users. This makes things much easier when adding members to a group, or when assigning page permissions and space permissions.
Confluence 2.10 brings many improvements to the Rich Text Editor and is a big step along the way to a great WYSIWYG experience.

- You can now use Safari to create and edit Confluence pages.
- The styles dropdown list now illustrates the format of each style, such as 'Heading 1', 'Heading 2' and so on.
- Tables are easier to insert and edit.
Universal Wiki Converter now with SharePoint Import and More

The Universal Wiki Converter (UWC) allows you to import content from other wikis into Confluence. Coinciding with the release of Confluence 2.10, there are some great improvements to this useful tool.

- You can now import pages from SharePoint wiki libraries, as well as other wikis, into Confluence.
- The UWC's enhanced user interface allows you to drag and drop wiki pages onto the UWC screen for conversion to Confluence.
- A new link on the Confluence Administration Console gives easy access the Universal Wiki Converter documentation and download pages.
- There is a new command-line interface to the UWC.
- The UWC also offers a new converter for Vqwiki, improvements to the Swiki converter, and more.

Improved Activity Macros

The Blog Posts macro, Recently Updated macro and Content by Label macro now support a common set of parameters, making it easier to code the macros and display the content you need.

- Filter content by author, label, space or content type.
- Use a minus sign (-) to exclude specific values. For example, using the 'author' parameter you can specify `author=-hpotter,hgranger,adumbledore`. You will get content which has been created/updated by either 'hgranger' or...
For the **HTML Include macro** and the **RSS macro**, you can now specify a 'whitelist' of allowed URLs. This will improve the security of your Confluence site, because it can be dangerous to include content from untrusted external sites. Our documentation shows you how to specify the whitelist.

**Plugin Framework 2**

Confluence 2.10 comes with Atlassian's new Plugin Framework 2.1, based on Spring Dynamic Modules using an embedded OSGi container. The new framework lays the groundwork for the following improvements:

- More robust Spring component plugins.
- The ability for plugins to depend on each other.
- Control over plugin load order.
- The ability for plugins to define their own extension points.
- More consistent plugin APIs between products.
- More consistent plugin behaviour across different versions of Confluence.

Take a look at our [developer documentation](#). The new plugin framework is under development. Here are some guidelines on converting your existing plugins to the new framework. We'd be delighted to have your feedback via our [JIRA project](#).

**More than 250 Fixes and Improvements**

- A new attachments icon on the first line under the title of a page tells you that there are files attached to the page, as well as how many attachments.
- A new lock icon marks pages which have view or edit restrictions.
- The Demonstration Space included in the Confluence download now has more sample content. We have adapted pages from our own development, human resources and sales teams, to give some ideas on how your organisation might use Confluence.
- The default home page for a space now includes a list of recently updated content, a search input box and a tree view of the pages in the space. The default home page is created when you add a space. You can edit the home page to include or remove any content as required.
- You can now crop and tailor your profile picture and delete any profile pictures that you no longer want.
- There is no longer any need to re-create the database indexes manually during the upgrade procedure. From Confluence 2.10, the upgrade process will automatically re-create the indexes.
- Trusted authentication and other Seraph-based authentication methods are now available for calls to the Confluence RPC methods. This makes it practical to write front-end AJAX functionality which uses the remote API to retrieve or modify Confluence data.
- Take a look at the complete list of issues resolved in Confluence 2.10.

**The Confluence 2.10 Team**

*Development*

**Bugfixing and Maintenance**

Andrew Lynch
Brian Nguyen
Chris Kiehl
Matthew Jensen

**Engine Room**

Anatoli Kazatchkov
Charles Miller
Christopher Owen
Matt Ryall

**Plugins**

Ben Speakmon
Cheryl Jerozal
Jonathan Nolen
Nathan Dwyer

**Rich Text Editor and Office Connector**

Agnes Ro
David Taylor
Don Willis
Ryan Ackley
Confluence 2.10 Upgrade Notes

Below are some essential notes on upgrading to Confluence 2.10. For details of the new features and improvements in this release, please read the Confluence 2.10 Release Notes.

On this page:

- Upgrade Notes
- Enabling the New Quick Navigation Feature on Customised Confluence Sites
- Crowd and the User Search
- RSS and HTML macro whitelists
- Plugins
- Java Versions
- Platforms No Longer Supported
- JavaScript Libraries
- Confluence Themes
End of Life of SnipSnap Import
No Need to Re-Create Database Indexes Manually
Upgrade Procedure

Upgrade Notes

Enabling the New Quick Navigation Feature on Customised Confluence Sites

If you have customised your Main Layout on either the space or the global level, or if you have a custom theme plugin, the new quick navigation feature will not work immediately for you.

To enable quick navigation, you need to add the following statement to your Main Layout anywhere before the `#standardHeader()` statement:

```
#requireResourcesForContext("main")
```

Crowd and the User Search

Confluence 2.10 includes a much-enhanced user search. (See the release notes.) If you are using Atlassian's Crowd for user management, you will need Crowd 1.5.1 or later to use the 'Simple' option in the user search. If your version of Crowd does not support the simple user search, you will see only the 'Advanced' search form. Please consider upgrading your Crowd version, to take advantage of the advanced user search.

RSS and HTML macro whitelists

To improve the security of a default installation of Confluence, macros which display HTML from external sources now use a whitelist of URLs configured by the Confluence administrator. This affects the RSS and HTML include macros.

See Configuring a URL Whitelist for instructions on how to configure a list of allowed URL patterns for the RSS and HTML macros in Confluence 2.10.

Plugins

If you are using any third-party plugins on your Confluence instance, please test them thoroughly before rolling 2.10 into production.

Java Versions

**Java 1.4 is not supported in Confluence 2.9 and later.** Please refer to the Java 1.4 Support Timeline for more information.

Before upgrading to Confluence 2.10, you will need to ensure your environment is running at least Java 5. Confluence 2.10 supports Java 5 and Java 6. We recommend Java 6 because of its increased performance and easier troubleshooting, due to enhanced memory dump and profiling capabilities.

You can check your current Java version in Confluence:

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
2. Select 'System Information' from the 'Administration' section in the left-hand panel.
3. Refer to 'Java Version':
   - If the version is 1.5 or higher, you do not need to do anything.
   - If the version is 1.4, you need to upgrade your JDK before you can upgrade to Confluence 2.10.

If you are running the Confluence EAR-WAR edition against your own application server, you will need to check with your application server vendor about which JDK versions are supported.

Platforms No Longer Supported

The following platforms were on the ‘unsupported but working’ list for Confluence 2.9. They are not on that list as of Confluence 2.10. We will still test those platforms infrequently, and Confluence will probably still work fine with them for a while, but they will not be officially supported.

- MySQL 4.1 — please upgrade to MySQL 5
- Tomcat 5.0 — please upgrade to Tomcat 5.5 or 6
- Resin 2 — please upgrade to Resin 3
- JBoss 4.0.x — please upgrade to JBoss 4.2.x

Please refer to the lists of supported application servers and supported databases for the updated matrix.

There is a workaround to enable MySQL 4.1.x.

JavaScript Libraries

**jQuery** is the supported JavaScript library for plugin developers.

Advance notice — deprecated libraries: We have decided to standardise on jQuery as the JavaScript library for Confluence. This library will eventually replace all others. For this reason, use of the following JavaScript libraries in Confluence is deprecated:

- Prototype
Scriptaculous

Because there is a lot of legacy plugin code using Prototype and Scriptaculous, these will continue to be available for this release of Confluence.

The Yahoo! User Interface Library (YUI) is no longer supported, following its removal in Confluence 2.9.

Confluence Themes

The Confluence Classic Theme is no longer supported, following its deprecation in Confluence 2.9. This theme uses outdated typography and formatting, which was replaced by the new-look Default Theme in Confluence 2.6. At that time, we introduced the Classic Theme to minimise the impact on customers who relied on the older typography.

When you upgrade to Confluence 2.10, an upgrade task runs to do the following:

- Any space with the Classic Theme configured will be migrated to use the Default Theme.
- If your Global Theme is set to use the Classic Theme, the Global Theme is also migrated to the Default Theme.
- The Classic Theme plugin is uninstalled. (The Classic Theme entry in the database is removed.)

End of Life of SnipSnap Import

Advance notice — EOL SnipSnap import: Confluence 2.10 is the last release which will include the SnipSnap Import option in the Confluence Administration Console. From the next release after Confluence 2.10, the SnipSnap import will no longer be available.

No Need to Re-Create Database Indexes Manually

In previous releases of Confluence, you needed to manually re-create the database indexes during the upgrade procedure. For this purpose, we provided a set of SQL statements as an attachment to the Upgrade Guide. From Confluence 2.10, the upgrade process will automatically re-create the indexes. Please refer to the Upgrade Guide.

Upgrade Procedure

Upgrade a test environment first

As always, please test your upgrades in your test environment before rolling into production.

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your Confluence Home Directory and database. See the documentation on backing up your Confluence site. If you are using an external database, perform a database backup.

2. If your version of Confluence is earlier than 2.9.x, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 2.9 upgrade notes.
   - If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.
   - If you are upgrading from 2.2 or earlier, you will need to upgrade to Confluence 2.5.8 first, confirm the upgrade was successful, then upgrade again from version 2.5.8 to the latest. For more details, please refer to CONF-11767.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

5. If you encounter a problem during the upgrade, please create a support ticket and one of our support engineers will assist you through the process.

RELATED TOPICS

Confluence 2.10 Release Notes

Issues resolved in Confluence 2.10

Below are the issues resolved in Confluence 2.10, ordered by number of votes. For the full details of the fixes, improvements and new features, please take a look at our issue tracker. You can also take a look at the Confluence 2.10 Release Notes.

<table>
<thead>
<tr>
<th>JIRA Issues (15 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
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<td><img src="CONF-2191" alt="CONF-2191" /></td>
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<tr>
<td><img src="CONF-3864" alt="CONF-3864" /></td>
</tr>
</tbody>
</table>
Above are the issues resolved in Confluence 2.10, ordered by number of votes. For the full list of fixes, improvements and new features, please take a look at our issue tracker.

Workaround For Enabling MySQL 4.1.x with Confluence 2.10

With the release of Confluence 2.10, MySQL 4.1.x is no longer supported and will not work by default. See the List Of Supported Databases for further details.

However, there is a workaround to enable MySQL 4.1.x with Confluence 2.10.

To enable MySQL 4.1.x with Confluence 2.10:

1. When launching Confluence from the command line, add the following parameter:

   `-Dmysql4Compatibility=true`

2. This will enable MySQL 4.1.x to work with Confluence 2.10. Please note however, that use of this database will not be supported by Atlassian.

Confluence 2.9.3 Release Notes

Confluence 2.9.3 is the standard edition version of Confluence 2.9.x. This version of Confluence is equivalent to Confluence version 2.9.2, but it does not include Oracle’s Coherence technology. Due to licensing changes with Oracle over the Coherence clustering and distributed caching technology, Atlassian is no longer able to distribute this technology to customers without a Confluence clustered license.

Therefore, Atlassian has released ‘standard editions’ for each previous major version of Confluence back to 2.6, which includes Confluence versions 2.10.4, 2.9.3, 2.8.3, 2.7.4 and 2.6.3. Confluence 2.9.3 will be the only Confluence 2.9.x version available to customers with a non-clustered Confluence license.

For its caching functionality, Confluence 2.9.3 utilises Ehcache. This functionality was provided by the Coherence technology in previous Confluence 2.9.x versions.

For more information about the features, updates and fixes in Confluence 2.9.2, please refer to the Confluence 2.9.2 Release Notes.

Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the Confluence 2.9.2 Upgrade Notes. However, if you have customised the cache settings in your installation of Confluence (e.g. for performance reasons), then please read the Confluence 3.0.1 Upgrade Notes for important information about transferring your caching layer customisations from Coherence to Ehcache.
We **strongly recommend** that you back up your `confluence.home` directory and database before upgrading.

**Confluence 2.9.2 Release Notes**

**14 October 2008**

**Confluence 2.9.2** is a recommended upgrade which fixes some security flaws and other issues.

Please refer to the **security advisory** for details of the security vulnerabilities, risk assessment and mitigation strategies.

You can now view the Wiki Markup code for previous versions of a page as well as the current version. Open a previous version from the page history, then select 'View Wiki Markup' from the 'Tools' menu. Previously, a bug caused Confluence to show the Wiki Markup only for the current version of the page.

Another bug caused an error to occur when you copied a page and tried to add an attachment before saving the page. This is now fixed, along with a number of other issues.

**Don't have Confluence 2.9 yet?**

Take a look at the new features and other highlights in the **Confluence 2.9 Release Notes**.

[Download Latest Version]

### Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the **Confluence 2.9.2 Upgrade Notes**. We **strongly recommend** that you back up your `confluence.home` directory and database before upgrading.

### Updates and Fixes in this Release

**JIRA Issues (29 issues)**

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<thead>
<tr>
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<th>Resolution</th>
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<td></td>
<td>CONF-13043</td>
<td>XSS in pagetree plugin</td>
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<td>CONF-13041</td>
<td>XSS in bookmarks plugin</td>
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<td></td>
<td>CONF-13092</td>
<td>Provide Patch for XWork ParametersInterceptor attacks</td>
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<td>CONF-13039</td>
<td>Privilege escalation: User is able to add a page to his watchlist without having the permission</td>
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<td>CONF-13042</td>
<td>XSS in RSS feed creation</td>
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<td></td>
<td>CONF-12940</td>
<td>Permission problem in preview blog post</td>
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<td></td>
<td>Fixed</td>
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<td></td>
<td>CONF-13040</td>
<td>Stored XSS in wiki macro search</td>
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<td>Fixed</td>
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<td>CONF-12944</td>
<td>XSS in site search action</td>
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<td>CONF-11640</td>
<td>Errors retrieving mail from Microsoft Exchange: &quot;Unable to load BODYSSTRUCTURE&quot;</td>
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<td>Fixed</td>
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<td></td>
<td>CONF-12920</td>
<td>Paging on Undefined Pages does not work with Auto Html Encoding</td>
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<td>CONF-12827</td>
<td>Paging does not work on People Directory with Auto Html Encoding</td>
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<td>CONF-12825</td>
<td>Exclamation marks in comments encoded when collapsed</td>
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<td>CONF-12921</td>
<td>Paging on Orphaned Pages does not work with Auto Html Encoding</td>
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<td></td>
<td>CONF-12922</td>
<td>Paging on Restricted Pages does not work with Auto Html Encoding</td>
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</tbody>
</table>
## Confluence 2.9.2 Upgrade Notes

Confluence 2.9.2 is a recommended upgrade which fixes some security flaws as well as other bugs. You'll find details of the fixes in the release notes.

**Upgrade Procedure**

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your confluence.home directory and database.
2. If your version of Confluence is earlier than 2.9.0, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 2.9 upgrade notes and the 2.9.1 upgrade notes.
   - If you are upgrading from 2.1 or earlier, please also read the 2.2 release notes.
3. Download the latest version of Confluence.
4. Follow the instructions in the Upgrade Guide.

## Confluence 2.9.1 Release Notes

**8 September 2008**

Confluence 2.9.1 is a recommended upgrade which fixes some security flaws and other issues.

Please refer to the security advisory for details of the security vulnerabilities, risk assessment and mitigation strategies.

This release also addresses an issue relating to contributor filtering with LDAP. In the previous version, the search function was not able to filter results by authors from an LDAP directory. This fix requires an upgrade action; see the Confluence 2.9.1 Upgrade Notes for more information.
There's a complete list of fixes below. Click a specific issue to see details of the fix.

Don't have Confluence 2.9 yet?

Take a look at the new features and other highlights in the Confluence 2.9 Release Notes.

Download Latest Version

Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the Confluence 2.9.1 Upgrade Notes. We strongly recommend that you back up your confluence.home directory and database before upgrading.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues (28 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
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<td>CONF-12911</td>
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<td></td>
<td>Pages that inherit page restrictions are not respecting those restrictions after upgrade to Confluence 2.9</td>
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<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-12856</td>
<td></td>
<td></td>
<td>Plugins can lose access to resources in inner jars</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-7615</td>
<td></td>
<td></td>
<td>XSS bug: usernames not HTML-encoded in all places</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-12860</td>
<td></td>
<td></td>
<td>Hidden pages’ content can be viewed without permission using diffpages.action</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-12785</td>
<td></td>
<td></td>
<td>Confluence 2.9 Installer does not work when installed as service</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-12859</td>
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<td></td>
<td>Hidden pages’ content can be viewed without permission using copypage.action</td>
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<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-12714</td>
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<td>Corrupt plugin jar can cause entire system to fail to start with java.lang.IllegalStateException: error in opening zip file</td>
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<td>Resolved</td>
<td>Fixed</td>
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<td>CONF-12770</td>
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<td></td>
<td>Update French and German Translations</td>
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<td>Fixed</td>
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<td>CONF-10636</td>
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<td></td>
<td>Labels Lost during Import</td>
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<td>Fixed</td>
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<td>CONF-12748</td>
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<td>2.8 default theme does not render edit, tools, and Add menus - cut off halfway</td>
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<td>Resolved</td>
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<tr>
<td>CONF-12845</td>
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<td>View Wiki Markup available on Page Restricted pages</td>
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<tr>
<td>CONF-11949</td>
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<td>Some words are not translated in French</td>
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<td>Resolved</td>
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<tr>
<td>CONF-13275</td>
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<td>Ognl exception and Homepage set to blank when editing space details</td>
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<td>Resolved</td>
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<td>CONF-10769</td>
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<td>LDAP users are added into People Directory only when they click on their Preferences</td>
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<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-12717</td>
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<td>TOC plugin cannot work with umlaute character</td>
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<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-12710</td>
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<td>'Recent Changes' in page info contains same author multiple times</td>
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<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-12666</td>
<td></td>
<td></td>
<td>Bookmarks labels can't be added/edited</td>
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<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-12766</td>
<td></td>
<td></td>
<td>Links to specific comments on a page do not jump to the comment location after the page is loaded</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-12711</td>
<td></td>
<td></td>
<td>Searches throw IllegalArgumentException when indexing language is French</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
Confluence 2.9.1 Upgrade Notes

Confluence 2.9.1 is a recommended upgrade which fixes some security flaws as well as other bugs. You'll find details of the fixes in the release notes.

Upgrade Procedure

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your confluence.home directory and database.

2. If your version of Confluence is earlier than 2.8.0, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 2.9 upgrade notes.
   - If you are upgrading from 2.1 or earlier, please also read the 2.2 release notes.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

Fix for Contributor Filtering LDAP Users

An issue was fixed in this release relating to search functionality and filtering by contributor. Authors from LDAP directories are now taken into account, however you will need to carry out the instructions to make sure all users are included in this feature.

Enabling Contributor Filtering for Search

Confluence 2.9 includes an enhancement to the search functionality which allows the filtering of search results by author or contributor. Unfortunately an existing bug in Confluence prevented this functionality from being used on sites that use LDAP for their user management.

Monitoring the Upgrade Task in Confluence 2.9.1

Confluence 2.9.1 fixes this defect and also includes an upgrade task that should ensure any existing content contributors are properly indexed and therefore available in the contributor filter auto-complete box.

Enabling this functionality is simply a case of installing Confluence 2.9.1 and watching your log file during start up for specific messages, such as the following.

```
Beginning Personal Information repair.
Found <n> usernames that need to be retrieved.
Finished Personal Information repair.
```

On a large external directory of users, it is possible that this task may take many minutes to run. However, the processing of this task will not delay the startup of Confluence.

Enabling Detailed Progress Reporting during Upgrade

If you wish to see more detailed progress reporting during the upgrade, you will need to carry out the following steps.
To enable detailed progress reporting,

1. Enable 'Debug' level logging for the logger called `com.atlassian.confluence.upgrade.PersonalInformationRepairTask`.
2. During startup of Confluence, you should also see additional progress reporting messages similar to the following:

   - Created 10 from \(<n>\) missing Personal Information objects.
   - Created 20 from \(<n>\) missing Personal Information objects.
   - Created 30 from \(<n>\) missing Personal Information objects.

**Manually Instigating the Fix**

Should you discover any problems during the repair task (as reported in the logs), then a Confluence Administrator can manually rerun the task by visiting the following page.

That page presents a single button that will re-run the repair task. In addition to the logging noted previously, the same messages will be returned to the administrator's browser.

**Actions Taken when Running the Fix**

There is no functional cost to running this fix. Should you accidentally run it too frequently, there is no functional implication. It is worth being aware of what is happening in the back-end so you can schedule a relevant time to perform it. While the fix is running, the following occurs:

- Two database queries are run to find the missing contributors, each involving an inner join against the same table.
- Each missing user is requested from the LDAP server by username.
- Each missing user will lead to a row insert in the database (these are batched).

**Restoring Inherited Page Permissions After 2.9 Upgrade**

Confluence instances that were upgraded to Confluence 2.9 are affected by a vulnerability. Child pages under a page protected by permissions are not protected by inherited permissions, as they should be. Please note that new installs of Confluence 2.9 which were not an upgrade from an old version are not affected.

Carry out the steps below to rectify the situation.

**To Restore Inherited Page Permissions After Upgrading to Confluence 2.9,**

1. Log into Confluence as 'Administrator'.
2. Access this specific page in Confluence:

   ```
   CONFLUENCE_HOME/admin/permissions/pagepermsadmin.action
   ```

   (replace 'CONFLUENCE_HOME' with the domain name of your own Confluence instance).
3. On that page, a single button is visible, entitled 'Rebuild Ancestor Table'. Click that button. It will report its success.
4. Now, go to the 'Confluence Admin' page. Here, click 'Cache Statistics' from the left navigation bar. A long list appears.
5. Find 'Inherited Content Permissions' in the list. Now, click the 'Flush' button to the right of 'Inherited Content Permissions'.
6. Inherited permissions will now be applied.

Read more about this vulnerability in the Security Advisory.

**Confluence 2.9 Release Notes**

7 August 2008

With great pleasure, Atlassian presents Confluence 2.9.

First up is the Search. The new screen design focuses the eye on your search term and results. To help you find information more quickly, Confluence now searches all content types by default and puts the most relevant results at the top of the list. Because a wiki is all about people, Confluence treats personal information as the most relevant. With author filtering, you can now find content written by a specific person.

The macros bundled with Confluence have been treated to a major overhaul. The Chart and Gallery macros offer sophisticated new displays and more interactivity. The revised Pagetree macro is now included in the Confluence download. Try using the Pagetree to add a navigation panel to your pages. We have added some popular new features and fixed a number of much-voted-for bugs in other macros too.
When you are editing a page, Confluence now automatically saves your work and displays the time of the last auto-save. If something goes wrong, you can quickly retrieve your work by selecting ‘Drafts’ from the user menu.

Other features include resetting page order to alphabetical and some much-needed help in the ongoing battle against spam.

**Highlights of this Release:**

- Streamlined Search
- Auto Save
- Charts
- Page Tree
- Gallery
- New Tutorial
- More in the Menus
- Alphabetical Page Ordering
- Better Spam Prevention
- Plugin Repository
- Engine Room and Developers’ Community
- More than 140 Fixes and Improvements
- Special Thanks

**Responding to your Feedback:**

210 votes satisfied

---

**Upgrading from a previous version of Confluence**

- **Confluence 2.9 requires Java 5 at a minimum**, and will no longer work with Java 1.4. Before upgrading to Confluence 2.9, please refer to the Confluence 2.9 Upgrade Notes for more details on this change.
- Upgrading Confluence should be fairly straightforward. **We strongly recommend that you back up your Confluence Home directory and your database before upgrading.**
- Please refer to the Confluence 2.9 Upgrade Notes for further essential information about plugins and other factors affecting your upgrade.

**Highlights of Confluence 2.9**

### Streamlined Search

- The redesigned Search screen helps you to focus on the search term and results, by simplifying the filter box and other parts of the screen.
- By default, the search now includes all spaces and all content types: pages, news items, comments and so on.
- You can filter the search results by space, content type and date modified.
- If your Confluence site uses the standard out-of-the-box configuration for user management, you can also filter the search results by contributor.
- The search results are weighted to give personal information the highest relevance, followed by pages, news items and the other content types.
- When using the Search macro or the Search API, you can now also filter by contributor.
- Take a look at our documentation for more details on the search and the ranking of search results.
Auto Save

- Confluence automatically saves your work to a draft while you are adding or editing a page.
- Now with release 2.9, a message near the 'Save' button shows the time of the latest auto-save.
- If something goes wrong, retrieve the saved draft easily from the dropdown menu under your name.
- You can read more about drafts in the documentation.
Charts

- The Chart macro presents a sophisticated new look.
- Below are some example charts displayed on a Confluence page.
- The documentation shows you how to add the macro to your page and choose different formats and types.

Page Tree

- The Pagetree macro is now bundled as part of your Confluence installation.
- It displays a dynamic, hierarchical list of pages which you can use as a table of contents or a navigation panel.
- You can choose to include a search box above the tree of pages or on its own.
- New links allow viewers to collapse or expand all branches in the tree at once.
There are a number of options for specifying the root of the page tree. For example, you can show children of the current page, or children of the current page's parent, or all pages in the space.

Take a look at the documentation to see the complete list of options.

**Gallery**

- Use the Gallery macro to display a set of pictures on a page.
- Now you can include or exclude individual pictures, or simply display all the images at once.
- Choose pictures from the current page or another Confluence page.
- Take a look at the documentation for help on these and other options.

Viewers can click an image to zoom in and view the gallery as a slide show.
New Tutorial

- When you download Confluence and choose to include the sample content, you will receive a new Demonstration Space.
- There's a tutorial for those new to Confluence or new to wikis.
- Other users will enjoy the advanced topics and links to more information.
- You can use the tutorial as a quick-start guide for new starters in your organisation.
More in the Menus

- The Space menu which appeared in Confluence 2.8 has now been renamed to ‘Browse’. Faithful Confluence users will recognise and welcome this old friend.
- The Browse menu now includes the People Directory, Space administration and Confluence administration for authorised users.
- You can now reach your personal labels, watches and drafts directly from the dropdown menu under your name on any Confluence page.

Alphabetical Page Ordering

- By default Confluence orders your pages alphabetically, but you can drag and drop them into any order you like.
- Now Confluence 2.9 allows you to reset the page order to alphabetical, just by clicking the icon next to the parent page.
- The documentation tells you more.

Better Spam Prevention
A new link on the user profile screen allows administrators to jump directly to the user management screen — handy for dealing with those pesky spammers of the human variety.

We have enhanced Confluence's Captcha functionality to strengthen the barrier against non-human spammers such as bots or web spiders.

Captcha is now active on user profile pages as well as other pages. The image which Captcha displays is now even more difficult for non-humans to read. Take a look at the word 'brihter' in the screenshot below.

You can read the instructions on configuring Captcha behaviour.

**Edit My Profile**

A Captcha image is present in the screenshot, which is used to prevent non-human users from accessing the profile.

**Plugin Repository**

The Plugin Repository shows more consistent information about the plugins on your Confluence site, including the system and bundled plugins which are shipped with Confluence.

**Engine Room and Developers' Community**

Confluence's request throughput has been improved, thanks to better class- and resource-loading strategies.

Startup time has also been reduced. This is particularly good for developers and anyone who needs to restart Confluence often.

The Search API now allows you to filter search results by contributor.

As part of the ongoing work to make it easier for internal developers and plugin developers to work on Confluence, this release includes refactoring of some web action classes.

To improve Confluence's resistance to cross site scripting security vulnerabilities, we have added an experimental automatic HTML entity encoding feature. This is the first step to providing a more secure product by default.

**More than 140 Fixes and Improvements**
• Take a look at the complete list of issues resolved in Confluence 2.9.

**Special Thanks**

We’d like to say thank you to Zohar Melamed and Shannon Krebs, who wrote the original Pagetree and Pagetree Search plugins.

**The Confluence 2.9 Team**

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**Bugfixing and maintenance**
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Chris Broadfoot  
Chris Kiehl  
Don Willis

**Design**
Jason Taylor  
Stephen Russell

**Editor and page tree improvements**
Agnes Ro  
David Taylor  
Dmitry Baranovskiy  
Matt Ryall

**Engine room**
Andrew Lynch  
Charles Miller  
Christopher Owen  
Matthew Jensen

**Plugins**
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Cheryl Jerozal  
Jonathan Nolen  
Rich Wallace  
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Confluence 2.9 Upgrade Notes

Below are some essential notes on upgrading to Confluence 2.9. For details of the new features and improvements in this release, please read the Confluence 2.9 Release Notes.

On this page:
- Upgrade Notes
- Plugins
- Java Versions
- Supported Databases and Application Servers
- JavaScript Libraries
- Confluence Themes
- Upgrade Procedure

Upgrade Notes

Plugins

Please check the following if you have added any plugins to Confluence:

- If you are using any third-party plugins, please test them thoroughly before rolling 2.9 into production.
- If you have installed the Gallery plugin onto your Confluence site, please remove it (or do not reinstall it after upgrading Confluence) in order to get the benefit of the new Gallery macro. The Gallery macro has been significantly improved in this release. It now incorporates features which were previously available only in the separate Gallery plugin.
- If you have installed the PageTree plugin or the Pagetree Search plugin onto your Confluence site, please remove them (or do not reinstall them after upgrading Confluence) in order to get the benefit of the new Pagetree macro. The Pagetree macro has been significantly improved in this release. It replaces the previous PageTree plugin, and incorporates the pagetree search option.
- If you are using the Blog Posts macro, be aware that invalid space keys will now be detected and cause the macro to fail. Previously they were ignored and blog posts from all spaces were returned.

Java Versions

Java 1.4 is not supported in Confluence 2.9 and later. Please refer to the Java 1.4 Support Timeline for more information.

Before upgrading to Confluence 2.9, you will need to ensure your environment is running at least Java 5. Confluence 2.9 supports Java 5 and Java 6. We recommend Java 6 because of its increased performance and easier troubleshooting, due to enhanced memory dump and profiling capabilities.

You can check your current Java version in Confluence:

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
   2. Select 'System Information' from the 'Administration' section in the left-hand panel.
   3. Refer to 'Java Version'.
      - If the version is 1.5 or higher, you do not need to do anything.
      - If the version is 1.4, you need to upgrade your JDK before you can upgrade to Confluence 2.9.

If you are running the Confluence EAR-WAR edition against your own application server, you will need to check with your application server vendor about which JDK versions are supported.

Supported Databases and Application Servers Additions to Application Server Support

We have added the following versions to the list of officially supported application servers:

- Resin 3.0 and 3.1
- Tomcat 6 (see known issue with authenticated datasources)

Platforms No Longer Supported

The following platforms were on the 'unsupported but working' list for Confluence 2.8. They are not on that list as of Confluence 2.9. They probably still work, but we have not tested them. Please upgrade soon.

- MySQL 4.0 — please upgrade to MySQL 5
- SQLServer 2000 — please upgrade to SQLServer 2005
- Websphere 6.0 — please upgrade to Websphere 6.1
- Weblogic 8.1 — please upgrade to Weblogic 9.2

Please refer to the lists of supported application servers and supported databases for the updated matrix.

Advance Notice — Changes to Supported Platforms in the Next Release

The next major release of Confluence after 2.9 will not support the following platforms/versions any more. We will still test those platforms infrequently, and Confluence will probably still work fine with them for a while, but they will be not officially supported.
MySQL 4.1 — please upgrade to MySQL 5
Tomcat 5.0 — please upgrade to Tomcat 5.5 or 6
Resin 2 — please upgrade to Resin 3
JBoss 4.0.x — please upgrade to JBoss 4.2.x

JavaScript Libraries

jQuery is the supported JavaScript library for plugin developers.

Advance notice — deprecated libraries: We have decided to standardise on jQuery as the JavaScript library for Confluence. This library will eventually replace all others. For this reason, use of the following JavaScript libraries in Confluence is deprecated:

- Prototype
- Scriptaculous

Because there is a lot of legacy plugin code using Prototype and Scriptaculous, these will continue to be available for this release of Confluence.

The Yahoo! User Interface Library (YUI) has been removed from this release, following its deprecation in Confluence 2.8.

Confluence Themes

Advance notice — The Confluence Classic Theme will be deprecated in a future release. Confluence 2.9 will be the last version that supports the Confluence Classic Theme. This theme uses outdated typography and formatting, which was replaced by the new-look Default Theme in Confluence 2.6. At that time, we introduced the Classic Theme to minimise the impact on customers who relied on the older typography. After Confluence 2.9, the Classic Theme will no longer be supported.

Upgrade Procedure

Upgrade a test environment first
As always please test your upgrades in your test environment before rolling into production.

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your Confluence Home Directory and database. See the documentation on backing up your Confluence site. If you are using an external database, perform a database backup.

2. If your version of Confluence is earlier than 2.8.x, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 2.8 upgrade notes.
   - If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.
   - If you are upgrading from 2.2 or earlier, you will need to upgrade to Confluence 2.7.0 first, confirm the upgrade was successful, then upgrade again from version 2.7.0 to version 2.8.2. For more details, please refer to CONF-11767.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

5. If you encounter a problem during the upgrade, please create a support ticket and one of our support engineers will assist you through the process.

RELATED TOPICS

Confluence 2.9 Release Notes

Issues resolved in Confluence 2.9

Below is the full list of issues resolved by Confluence 2.9. You can read the release notes here.

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<thead>
<tr>
<th>JIRA Issues (162 issues)</th>
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Confluence 2.8.3 Release Notes

Confluence 2.8.3 is the standard edition version of Confluence 2.8.x. This version of Confluence is equivalent to Confluence version 2.8.2, but it does not include Oracle’s Coherence technology. Due to licensing changes with Oracle over the Coherence clustering and distributed caching technology, Atlassian is no longer able to distribute this technology to customers without a Confluence clustered license.

Therefore, Atlassian has released ‘standard editions’ for each previous major version of Confluence back to 2.6, which includes Confluence versions 2.10.4, 2.9.3, 2.8.3, 2.7.4 and 2.6.3. Confluence 2.8.3 will be the only Confluence 2.8.x version available to customers with a non-clustered Confluence license.

For its caching functionality, Confluence 2.8.3 utilises Ehcache. This functionality was provided by the Coherence technology in previous Confluence 2.8.x versions.

For more information about the features, updates and fixes in Confluence 2.8.2, please refer to the Confluence 2.8.2 Release Notes.

Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the Confluence 2.8.2 Upgrade Notes. However, if you have customised the cache settings in your installation of Confluence (e.g. for performance reasons), then please read the Confluence 3.0.1 Upgrade Notes for important information about transferring your caching layer customisations from Coherence to Ehcache.

We strongly recommend that you back up your confluence.home directory and database before upgrading.

Confluence 2.8.2 Release Notes

3 July 2008

Confluence 2.8.2 is a recommended upgrade which fixes some security flaws and other bugs. Please refer to the security advisory for details of the security vulnerabilities, risk assessment and mitigation strategies.

This release fixes the ‘remember me’ problem encountered when using Confluence with Tomcat 5.5.26 or Tomcat 6, where logins are not remembered.

Confluence administrators will see a new link on the user profile screen, allowing them to move directly to the user management screen for that user.

This release also addresses some performance bugs:

- Label links, as well as the label summary pages, now include the ‘nofollow’ attribute to prevent search engines like Google from indexing them.
- We have increased the size of the UI templates cache, which should reduce the number of times Confluence needs to load resources.
- CSS caching has been improved. (Refer to CONF-11755 if you’d like to know the details.)
- When generating a URL for the multiple label filter, Confluence now sorts the labels in the URL alphabetically, ensuring that there is just one URL for each filter instead of possible multiple URLs. This should reduce the load on the server when search engine crawlers visit the Confluence site, because the crawlers no longer need to index multiple URLs.

The JIRA Issues macro now has improved caching. When trusted communication was first introduced, Confluence did not cache results for anonymous users or results retrieved using trusted communications. With Confluence 2.8.2, caching is implemented for both those cases. This fix should improve the performance of your JIRA site, because Confluence no longer needs to access the JIRA site as often.

There’s a complete list of fixes below. Click a specific issue to see details of the fix.

Don’t have Confluence 2.8 yet?

Take a look at the new features and other highlights in the Confluence 2.8 Release Notes.

Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the Confluence 2.8.2 Upgrade Notes. We strongly recommend that you back up your confluence.home directory and database before upgrading.

Updates and Fixes in this Release

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<th>Description</th>
<th>Resolution</th>
<th>Status</th>
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<tr>
<td>CONF-12228</td>
<td>Security Vulnerability in xwork, need to update to fixed version</td>
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<td>Fixed</td>
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<td>CONF-12056</td>
<td>Hot Referrers section in page info has broken links</td>
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<td>Fixed</td>
</tr>
<tr>
<td>CONF-12011</td>
<td>Multiple-label filter generates redundant URLs</td>
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<tr>
<td>CONF-11985</td>
<td>XSS vulnerability in create/edit/copy page and blogpost actions</td>
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<td>Fixed</td>
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<td>CONF-11977</td>
<td>Customised Left Navigation Theme displays &quot;test&quot; next to user icon.</td>
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<td>CONF-11940</td>
<td>Add nofollow to label links so search engines like google don't index them</td>
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<td>CONF-11864</td>
<td>Sort order in People Directory makes no sense</td>
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<td>CONF-11833</td>
<td>Global logos don't refresh/no longer display in Confluence 2.8</td>
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<td>CONF-11831</td>
<td>Daily notification email: The space URL isn't interpreting ${space.key}</td>
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<td>Fixed</td>
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<td>CONF-11816</td>
<td>Improve performance by specifying a larger size for the UI Templates cache</td>
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<td>CONF-11776</td>
<td>PDF export does not render panel macro background-color or title alignment</td>
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<td>CONF-11765</td>
<td>&quot;unable to find resource&quot; error logged during an export</td>
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<td>CONF-11587</td>
<td>Add link from User homepage to user admin page if current user is admin</td>
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<td>Space Admin cause RuntimeException: Unable to find resource '/spaces/space-admin-breadcrumbs.vm'</td>
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<td>JIRA issues macro should cache results for anonymous users when using a trusted connection</td>
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<td>Some users' logins are not remembered using Tomcat</td>
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<td>Exporting space in PDF - SOAP API doesn't interpret $dateFormatter, while exporting using a browser does</td>
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<td>Custom global logo image height is not respected</td>
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<td>CONF-11137</td>
<td>XSS vulnerability in pagepicker.action and spacepagepicker.action</td>
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<td>headlines (h1, h2,...) included inside code macro are rendered from toc and toc-zone macro</td>
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<td>Error creating Indexes during setup or site restore: &quot;Column name 'ENTITY_ID' does not exist in target table&quot;</td>
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<td>Change the sample URL for jiraissues macro usage in the Confluence's Notation Guide</td>
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<td>adding option of title to noformat macro breaks the toc macro and interferes with toc-zone macro</td>
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<td>CamelCase links are not detected by Incoming Links</td>
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</tbody>
</table>

**Confluence 2.8.2 Upgrade Notes**
Confluence 2.8.2 is a recommended upgrade which fixes some security flaws as well as other bugs. You'll find details of the fixes in the release notes.

Upgrade Procedure

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your confluence.home directory and database. See the documentation on backing up your Confluence site.

2. If your version of Confluence is earlier than 2.8.0, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 2.8 upgrade notes.
   - If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.
   - If you are upgrading from 2.2 or earlier, you will need to upgrade to Confluence 2.7.0 first, confirm the upgrade was successful, then upgrade again from version 2.7.0 to version 2.8.2. For more details, please refer to CONF-11767.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

Confluence 2.8.1 Release Notes

21 May 2008

Confluence 2.8.1 is a recommended upgrade which fixes some security flaws as well as other bugs in Confluence 2.8. Please refer to the security advisory for details of the security vulnerabilities, risk assessment and mitigation strategies.

Two of the bug fixes resolve problems with rendering a wiki page in Internet Explorer 6. Additionally, these fixes will significantly improve performance in some configurations of Confluence 2.8.

We have created some performance testing scripts, which will be particularly useful for large or mission-critical Confluence installations.

Using a custom space logo caused some problems, particularly with Resin application server, where the page would sometimes hang and then display incorrectly. This is now fixed.

There's a complete list of fixes below. Click a specific issue to see details of the fix.

Don't have Confluence 2.8 yet?
Take a look at the new features and other highlights in the Confluence 2.8 Release Notes.

Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the Confluence 2.8.1 Upgrade Notes. We strongly recommend that you back up your confluence.home directory and database before upgrading.

Updates and Fixes in this Release

<table>
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<tr>
<th>JIRA Issues</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-12153</td>
<td>CONF-12153</td>
<td>Rollover help text for comment action links is misleading</td>
<td>Closed</td>
<td>Fixed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-11779</td>
<td>CONF-11779</td>
<td>Collapse all comments link collapses add, reply and edit comment forms</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-11774</td>
<td>CONF-11774</td>
<td>IE6 clients download spacer.gif from wrong URL many times</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-11625</td>
<td>CONF-11625</td>
<td>Attachments view can't collapse</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-11621</td>
<td>CONF-11621</td>
<td>Numbered Lists getting cut off in tables when using IE 6 and IE 7</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-11612</td>
<td>CONF-11612</td>
<td>Add note to top of DOC and archived CONFnn spaces about documentation versioning</td>
<td>Closed</td>
<td>Fixed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-11605</td>
<td>CONF-11605</td>
<td>Bad link in description for Plugin Repository plugin</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-11585</td>
<td>CONF-11585</td>
<td>Mailbox Import errors not escaped</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
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<td></td>
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</tr>
<tr>
<td>CONF-11582</td>
<td>Macro for printable icon should not include <code>&lt;li&gt;</code> tags</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11532</td>
<td>Mailbox Import errors appear twice</td>
<td>Resolved</td>
<td>Fixed</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11524</td>
<td>XSS vulnerability in <code>viewinfo.action</code></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-11512</td>
<td>Requests to <code>fake.gif</code> (defined in <code>menu.css</code>) causes <code>SocketException</code> in server when requested by IE6</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-11491</td>
<td>Invalid tooltip on `Edit</td>
<td>Remove</td>
<td>Reply` in comments section - always says “Permanent link to this comment”</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-11485</td>
<td>Backslash missing in <code>ConfluenceActionSupport.properties</code></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11482</td>
<td>Mail server MBean does not unregister correctly after changing name</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11479</td>
<td>Add left-hand pagetree navigation to Confluence documentation <code>DOC</code> space</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11468</td>
<td>Drop services and <code>JavaWrapper</code> from installer, or fix documentation</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11463</td>
<td>Error message styles lost in setup</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-11462</td>
<td>Run as Service should not be a default - installer</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONF-11456</td>
<td>Installer deletes old Confluence installation without warning</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>CONF-11452</td>
<td>Users can move attachments to a space they have no permission for</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11444</td>
<td>As ‘Administrator’ (not system admin) I cannot change parameter in <code>General Configuration</code></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11435</td>
<td>Restore and deprecate <code>general-breadcrumbs.vm</code></td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11414</td>
<td>The first comment action at the bottom left should not have a border</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11412</td>
<td>Site Import leaves key generation strategy in an inconsistent state when running in a cluster</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11399</td>
<td>Blog-posts macro did not render &quot;Read More...&quot; link after excerpt</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-11385</td>
<td>Cancelling raise support request screen takes you to a blank page</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>CONF-11378</td>
<td>Draft spacekey index name is too long for DB2</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONF-11368</td>
<td>Provide load-testing scripts for Large or Mission-Critical Confluence Installations</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONF-11358</td>
<td>Tools link appears in wrong place on first page load</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONF-11331</td>
<td>OSUser entity migration fails due to case differences in database columns</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-11325</td>
<td>Refreshing a page hangs and corrupts page results when a custom logo is used on Confluence running behind <code>mod_jk</code> or <code>mod_proxy_ajp</code></td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-11300</td>
<td>If you collapse a loading tree node the node stays collapsed</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-11297</td>
<td>Custom end of body HTML appears twice</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
**Confluence 3.0 Documentation**

<table>
<thead>
<tr>
<th>Issue ID</th>
<th>Description</th>
<th>Resolution Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-11292</td>
<td>Page Ordering tree: Location label updates wrongly after clicking &quot;done&quot;</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-11183</td>
<td>Numbered list entries are too close to left-hand margin</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-11156</td>
<td>Name of new page should be shown in the tree on edit</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-11133</td>
<td>Changing passwords in Confluence does not update the user cache</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-11073</td>
<td>Menus wrap when font size is increased</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-10931</td>
<td>New add menu still appears when user has no permissions to add</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-10854</td>
<td>Accepting an Invitation leads to a NonUniqueObject Exception</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-10335</td>
<td>Mail connections do not specify a timeout, leading to monopolization of resources</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-10142</td>
<td>Improve performance by specifying a larger size for the Content Permission Set cache</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-9390</td>
<td>Adding the same membership twice via UserAccessor throws Hibernate runtime exception</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-8637</td>
<td>Resin 3 responses are being concatenated sometimes when a custom logo is specified</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7760</td>
<td>Make the plus-sign a legal character for attachments</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-2487</td>
<td>Attachments containing spaces download with + in their filenames.</td>
<td>Resolved Fixed</td>
</tr>
</tbody>
</table>

**Confluence 2.8.1 Upgrade Notes**

Confluence 2.8.1 is a recommended upgrade which fixes some security flaws as well as other bugs. You’ll find details of the fixes in the release notes.

**Upgrade Procedure**

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you **back up your confluence home directory and database**.
2. If your version of Confluence is earlier than 2.8.0, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 2.8 upgrade notes.
   - If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.
3. **Download** the latest version of Confluence.
4. Follow the instructions in the Upgrade Guide.

**Confluence 2.8 Release Notes**

10 April 2008

The Atlassian Confluence team is delighted to present **Confluence 2.8**.

We have simplified the screen design to focus on content. There's a totally new menu structure for editing or adding content and many other actions. We’ve also grouped the menu functions so that they are easier to use and understand. This will help new users start using Confluence quickly. For our faithful customers, you may find existing features you didn’t know Confluence had!

The much voted for page-ordering feature allows you to define the order of your wiki pages yourself — just drag and drop your pages into the right position.

We've beautified the display of comments on pages and news items. With the multiple-label filter, you can combine more than one label in your label searches and surf labels directly via a sensible URL. Getting Confluence up and running is easier than ever with our new installer. An enhanced task list is bundled with Confluence, bringing faster response times and a simple yet powerful user interface.

There are some great performance enhancements and a lot for administrators and developers too.
Thank you for all your issues and votes. Keep on logging, to help us keep improving!
Below is a list of the highlights in this release.
Attached is the full list of issues resolved in this release.

### Upgrading to Confluence 2.8?

- Upgrading Confluence should be fairly straightforward. **We strongly recommend that you back up your Confluence Home directory and your database before upgrading.**
- If you are using any third-party plugins, please test them thoroughly before rolling 2.8 into production.
- Please refer to the Confluence 2.8 Upgrade Notes for further essential information about upgrading.

### Responding to your feedback:

🌟 14 new feature requests implemented
🌟 300+ votes satisfied

### Highlights of this release:

- Dynamic menus and simplified screen design
  - Drop-down menus replace tabs and links.
  - Grouping of functions is more intuitive.
  - Features are more visible than before — you may even come across things you didn't know Confluence had!
  - A cleaner screen design lets you focus on the page's content.
  - It's simpler than ever to edit a page.
  - There is more space for entering text.
  - See an overview of the new menu structure and what's changed.

### Highlights of Confluence 2.8

1. **Dynamic menus and simplified screen design**
Page ordering

- One of the most popular feature requests is now a reality — Confluence allows manual page ordering.
- You can choose the order in which wiki pages are displayed.
- Use a dynamic tree view to drag and drop your pages into the right position.
- Page order is reflected in all tree views for a space or a page family, including the PageTree macro and exports to PDF, HTML and XML.
- Take a look at the documentation to learn more.

Collapsible comments

- We’ve beautified the display of comments on pages and news items.
- You can collapse comments to a single line.
- It’s easier to keep track of multi-level comment threads.
When collapsed, a comment shows a single-line excerpt.
• The time stamp is relative for recent comments — for example, it might say 'less than a minute ago'.
• The ‘permanent link’ icon is back, after a temporary absence in Confluence 2.6. Instead of lurking behind the date, it's now a link icon at the bottom right of each comment.

Multiple-label filter

• Combine more than one label in your label searches.
• Use the '-' link next to the label name to subtract a label from your multiple-label search.
• Browse labels simply by typing in a URL, such as:

   http://CONFLUENCE_HOSTNAME/label/label-url

• Take a look at the documentation to learn more.
**Confluence installer**

- The installation wizard lets you install Confluence Standalone edition without fuss or bother.
- Your Java environment is automatically configured.
- Confluence starts up in your browser after installation and leads you straight into the Setup Wizard.
- You can choose to install Confluence as a Windows service.
- Confluence appears in your Windows Start Menu.
- Read the documentation.

**Task list**

- The enhanced task list plugin is now bundled with Confluence.
- Permissions in the task list match the permissions of the page containing it.
- New user and group pickers help you to choose the right person or group.
- The sophisticated visual design suits the Confluence look and feel — take a look at the borders, icons, radio buttons and the handy visible cue on drag-and-drop.
- The data is stored in the page, and you can edit it there too.
- Performance on list operations is vastly improved.
- Existing task lists are upgraded on first edit. Read more in the upgrade notes.
- Here's the guide to using the macro.
Performance enhancements

- You will notice significant performance improvements in this release.
- A new gzip compression filter speeds up the transfer of data from Confluence and uses far less memory than the earlier implementation.
- The PDF space export uses less server memory.
- And more for the technically-minded:
  - The commonly-accessed resources use permanent client-side caching.
  - We have optimised some operations that were performed on every request, decreasing the average time taken to load a page.
  - We have optimised the database access for labels and attachments.
  - Where users belong to many groups, the retrieval of groups from LDAP is faster.
  - Access to Confluence’s data storage mechanism (Bandana) has been made more granular, so that we don’t load the entire context when retrieving individual keys from large contexts.

Administration, management and monitoring

- Confluence now supplies statistics and other information via a Java Management Extensions (JMX) interface. A number of third-party consoles will allow you to view the information and monitor your Confluence instance. There’s more information in the documentation.
- The Plugin Repository client shows you which plugins are officially supported.
- You can raise a support request via the Administration Console.
- Troubleshoot your LDAP user management directly from the Administration Console.
- A new field on the System Information page displays the current access latency to the Confluence database — useful for diagnosing database network problems.

Highlights for developers

- Install custom path-mapping as part of your plugin, using the new Path Converter plugin modules — prettify your URLs.
- Include your JavaScript and CSS resources neatly, using the Web Resource plugin type.
- The Velocity template engine has been upgraded to version 1.5.
- We have begun a cleanup of the HTML and CSS for viewing and editing a page, moving towards semantic markup and web standards.
- We are moving towards standardisation on a single JavaScript library, based on jQuery. This is the supported JavaScript library for
plugin developers. The benefits? No more conflicts between libraries. jQuery is fast. And there’s less to learn!

Over 100 fixes and improvements

- The People Directory uses the hCard microformat for simple integration with a variety of microformat-enabled tools.
- And more.

Special thanks

We’d like to thank Shannon Krebs, David Peterson and David Chui in particular for their continuing contributions to the open-source Confluence plugin library.

The Confluence 2.8 team

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San Francisco
Jeremy Largman
Confluence 2.8 Upgrade Notes

Below are some essential notes on upgrading to Confluence 2.8. For details of the new features and improvements in this release, please read the Confluence 2.8 Release Notes.

On this page:

- Upgrade Notes
- Crowd Integration
- Default Order of Pages Changed from Alphabetical to Natural
- Plugins
- Velocity Template Engine
- Dynamic Tasklist 2
- Customised Page Layouts
- JavaScript Libraries
- Java Versions
- Upgrade Procedure

Upgrade Notes

Crowd Integration

If you are using Atlassian Crowd as your Confluence user management and single sign-on solution, please upgrade to Crowd 1.3.2 or later. With Confluence 2.8 the atlassian-user interface has changed, and Crowd 1.3.2 provides the required update to Crowd's atlassian-user integration module.

Default Order of Pages Changed from Alphabetical to Natural

Confluence 2.8 introduces the ability to move pages into any order you choose.

As part of the above feature, we have changed the default page order in Confluence, from simple alphabetical ordering to a 'natural' ordering. The natural ordering handles numeric values correctly when doing string comparisons.

Impact:

- The new natural ordering is the same as the ordering already used by the PageTree plugin, which some customers use to create a left-hand navigation panel.
- The change to natural ordering should have little effect on most users because, under most situations, natural ordering and alphabetical ordering will produce the same results.
- For customers who have inserted chapter or page numbers to force the correct order, the new natural ordering will show the existing pages in the correct order.

⚠️ If you do find that the order of your pages is adversely affected, you can use the new page-ordering function to move the pages.

Plugins

Please check the following if you have added any plugins to Confluence:

- If you are using any third-party plugins, please test them thoroughly before rolling 2.8 into production.
- The PageTree plugin has been updated. If you are using this plugin, please download the latest version to ensure compatibility with Confluence 2.8.

Velocity Template Engine

Confluence’s Velocity template engine has been upgraded from 1.3 to 1.5. Please test carefully for compatibility problems with existing third-party themes and plugins. For developers, there’s more information about Migrating to Velocity 1.5.

Dynamic Tasklist 2

The Dynamic Tasklist 2 plugin is now bundled with Confluence. The new tasklist macro replaces the older tasklist and dynamictasklist macros. What happens to existing tasklists?

- By default, the new macro will be enabled and the older macros disabled in your Plugin Repository.
- When someone views a page containing an older version of the task list, the display will show the new format but the page will not be updated.
- When someone first adds a task or changes anything in the task list, the data will be converted to the new format.

Customised Page Layouts
The Confluence Upgrade Guide includes instructions on re-applying your customisations after the upgrade. We're repeating some of that information here, because it's particularly important due to the UI changes in this release.

If a space uses a customised page layout, the new Confluence 2.8 layout will not be applied. This means that you will not see the new menu structure within that space. For example, this will happen if you are using pagetree navigation to form a table of contents on the left.

**Fix:** Apply the Default Page Layout, then re-insert your custom code.

**Steps in detail:**

1. Go to the Space Admin screen and click 'Edit' to view your customised Page Layout.
2. Copy the customised code.
3. Cancel the edit.
4. Click 'Reset Default' to apply the new Confluence 2.8 default page layout.
5. On the Space Admin screen, click 'Create Custom' to create a custom page layout.
6. Reinsert your customised code and click 'Save'.

**JavaScript Libraries**

jQuery is the supported JavaScript library for plugin developers.

**Advance notice — deprecated libraries:** We have decided to standardise on jQuery as the JavaScript library for Confluence. This library will eventually replace all others. For this reason, use of the following JavaScript libraries in Confluence is deprecated:

- The Yahoo! User Interface Library (YUI)
- Prototype
- Scriptaculous

Because there is a lot of legacy plugin code using Prototype and Scriptaculous, these will continue to be available for at least one more major release of Confluence.

**Java Versions**

Confluence 2.8 supports Java 1.4, Java 5 and Java 6. We recommend Java 6 because of its increased performance and easier troubleshooting, due to enhanced memory dump and profiling capabilities.

**Advance notice — Java 1.4 will be deprecated in a future release.** Confluence 2.8 will be the last version that supports Java 1.4. Please refer to the Java 1.4 Support Timeline for more information.

**Upgrade Procedure**

As always please test your upgrades in your TEST environment before rolling into PRODUCTION.

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your Confluence Installation Directory and your Confluence Home Directory, as directed in the Upgrade Guide. If you are using an external database, perform a database backup.

2. If your version of Confluence is earlier than 2.7.x, read the release notes and upgrade guides for all releases between your version and the latest version.
   - If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.
   - If you are upgrading from 2.2 or earlier, you will need to upgrade to Confluence 2.7.0 first, confirm the upgrade was successful, then upgrade again from version 2.7.0 to version 2.8. For more details, please refer to CONF-11767.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

5. If you encounter a problem during the upgrade, please create a support ticket and one of our support engineers will assist you through the process.

**RELATED TOPICS**

Confluence 2.8 Release Notes

**Issues resolved in Confluence 2.8**

Below is the full list of issues resolved by Confluence 2.8. You can read the release notes here.

<table>
<thead>
<tr>
<th>JIRA Issues (124 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>![icon]</td>
<td>CONF-1031</td>
<td>Page ordering</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>![icon]</td>
<td>CONF-1075</td>
<td>User print-only stylesheet to make printing easier, more beautiful and more configurable</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-3525</td>
<td>View News needs to be more prominent</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-3719</td>
<td>Drag and Drop functionality in the Tree Viewer for moving pages</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-4002</td>
<td>Reduce memory footprint of file-upload by writing uploaded file directly to disk</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-4577</td>
<td>Filter by multiple labels</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-4939</td>
<td>Send notifications when deleting content (e.g. when moving it to the trash) instead of sending them when purging the trash</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-4961</td>
<td>Blog-posts macro limits number of results before applying label filter rather than after</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-5019</td>
<td>Catch back button (of just leaving the page) when editing to ensure auto-save captures latest edits</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-5320</td>
<td>Javascript error (autosave) when saving page</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
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<tr>
<td>CONF-5663</td>
<td>Access keys for &quot;search&quot; and &quot;save&quot; conflict (both use &quot;s&quot;), this leads to inconsistent behaviour across browsers</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-5717</td>
<td>Confusing error message when viewing mail archive with no space key</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-5735</td>
<td>Improve handling of downtime of an LDAP repository</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-5795</td>
<td>Breadcrumbs shouldn't hyperlink the current page</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-5799</td>
<td>Hide trash when user can't remove page</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-6532</td>
<td>Stack trace when LDAP user tries to reset password in &quot;Forgot my password&quot; action</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-6702</td>
<td>Clean Confluence main stylesheet for readability</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-6713</td>
<td>Clicking 'Edit' while editing loses recent changes - currently selected tab should not be clickable</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-7409</td>
<td>Allow plugins to include Javascript and CSS resources in the HTML header</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-7436</td>
<td>CSS selectors in themes can clash with defined Velocity macros</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-7451</td>
<td>Many LDAP groups make ‘Edit Groups’ very slow</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-7465</td>
<td>Confluence responds extremely slowly if LDAP connection times out</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-7620</td>
<td>Downloaded zip files with IE7 is corrupted (not able to open the archive) from confluence.atlassian.com</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-8138</td>
<td>Notifications for file attachment removal states the file attachers name, not the file removers name</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-8293</td>
<td>Removed content notifications should include &quot;removed by&quot; user</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-8483</td>
<td>under 'Space &gt; List Attachments', make 'Filter By File Extension' non-case-sensitive</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-8805</td>
<td>when you add a new image using wiki markup, then switch to the Rich Text Editor, 'width=32,height=32' gets appended to the new image</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-8921</td>
<td>Show All Comments Doesn't</td>
<td>Resolved</td>
<td>Fixed</td>
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<td>ID</td>
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<tr>
<td>CONF-8971</td>
<td>Inefficient LDAP group lookup</td>
<td>Fixed</td>
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<tr>
<td>CONF-8972</td>
<td>NullPointerException when accessing a Confluence instance via tinyURL link without identifier</td>
<td>Fixed</td>
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<tr>
<td>CONF-9046</td>
<td>Functional tests dump a load of Javascript errors to the logs</td>
<td>Fixed</td>
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<tr>
<td>CONF-9093</td>
<td>Max label limit can be passed by adding labels via ajax</td>
<td>Fixed</td>
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<tr>
<td>CONF-9114</td>
<td>Support for password protected proxies</td>
<td>Fixed</td>
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<tr>
<td>CONF-9206</td>
<td>Patch for resource handling to set proper expiry dates</td>
<td>Fixed</td>
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<tr>
<td>CONF-9220</td>
<td>Create a support request page similar to JIRA</td>
<td>Fixed</td>
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<tr>
<td>CONF-9241</td>
<td>Comment collapsing or hiding hides comment just added</td>
<td>Fixed</td>
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<tr>
<td>CONF-9243</td>
<td>New spaces in the dashboard are listed out of order</td>
<td>Fixed</td>
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<tr>
<td>CONF-9291</td>
<td>Pluggable wiki renderers</td>
<td>Fixed</td>
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<tr>
<td>CONF-9302</td>
<td>Blog-Post macro parameter 'match-labels=all' incorrect if a label does not exist</td>
<td>Fixed</td>
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<tr>
<td>CONF-9304</td>
<td>File-uploading improvement: Remove dependency on pell-multipart library</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9419</td>
<td>Confluence 2.6-dr1 main-action.css tweaks</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9420</td>
<td>Combine duplicated ordered list CSS entries</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9422</td>
<td>Confusing heading CSS</td>
<td>Fixed</td>
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<tr>
<td>CONF-9428</td>
<td>Remove greylinks duplication</td>
<td>Fixed</td>
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<tr>
<td>CONF-9429</td>
<td>More style duplication gardening...</td>
<td>Fixed</td>
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<tr>
<td>CONF-9430</td>
<td>Separate out left nav theme styles in to the left nav theme heh</td>
<td>Fixed</td>
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<tr>
<td>CONF-9433</td>
<td>Upgrade Atlassian Common modules for Confluence 2.7</td>
<td>Fixed</td>
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<tr>
<td>CONF-9462</td>
<td>main-action.css in conf 2.6-dr1 sets body to text-align:center!!!! RARGH!!! NASTY!!!</td>
<td>Closed</td>
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<tr>
<td>CONF-9554</td>
<td>Capture OutOfBounds when accessing users outside of the total list</td>
<td>Fixed</td>
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<tr>
<td>CONF-9571</td>
<td>Upgrade tangosol to a new version</td>
<td>Fixed</td>
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<tr>
<td>CONF-9609</td>
<td>Space key with &quot;-&quot; (hyphen) throws exception</td>
<td>Fixed</td>
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<tr>
<td>CONF-9640</td>
<td>Upgrade Confluence's Velocity dependency to 1.5</td>
<td>Fixed</td>
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<tr>
<td>CONF-9666</td>
<td>SQLException when trying to purge external referrers</td>
<td>Fixed</td>
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<tr>
<td>CONF-9695</td>
<td>Table styles in preview are different to normal page view</td>
<td>Fixed</td>
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<tr>
<td>CONF-9723</td>
<td>remove comment notification wrongly claims that the comment author (or perhaps page author?) is the comment remover</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-9750</td>
<td>IllegalStateException from JDK hook on shutdown</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-9790</td>
<td>Check for database latency and display it in system information page</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-9806</td>
<td>Pagination on Attachments tab does not reflect filtered results</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-9832</td>
<td>Ability to 'Show Comment' even when No comment set</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-9861</td>
<td>Provide JMX interface for Confluence core statistics</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-9885</td>
<td>Admin group membership URL fails for groups with parentheses in group id</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-9892</td>
<td>Notification mail for page-removal displays wrong user</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-9893</td>
<td>Pagination in the User Picker/Search is broken when using the group filter</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-9895</td>
<td>Using the ampersand ('&amp;') in user group name causes problems</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-9930</td>
<td>Gzip filter (used for http-compression between client and server) creates very large temporary objects in memory</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-9983</td>
<td>Editing News items (blog posts) allows you to save them without a title</td>
<td>Resolved Fixed</td>
<td></td>
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<tr>
<td>CONF-10024</td>
<td>Clean up breadcrumbs templates to use the new BreadcrumbManager</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-10029</td>
<td>Include JDBC database info in automatic support request email</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-10037</td>
<td>Alphabetical View of a space only displays pages that start with the letter 'a'</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-10213</td>
<td>XML RPC server uses platform default character encoding to decode requests</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-10222</td>
<td>&quot;Diff&quot; option in the RSS Feed Builder does not take effect</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-10250</td>
<td>Confusion when using Edit's &quot;Shortcut Key&quot; in Confluence and end of line key for a MacOS machine</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-10260</td>
<td>Blank daily notification emails when the wiki content has not changed at all, e.g. on weekends</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-10275</td>
<td>Sort order of People Directory is not alphabetical for case sensitive entries</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-10305</td>
<td>Multimedia *.swf files are not able to render in Internet Explorer browser</td>
<td>Resolved Fixed</td>
<td></td>
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<tr>
<td>CONF-10392</td>
<td>Confluence javac should not fork</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-10394</td>
<td>Bloated logfiles due to warning message from [apache.commons.httpclient.HttpMethodBase] getResponseBody()</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-10402</td>
<td>View Problems with IE while editing with RTE</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-10449</td>
<td>No whitespace before the word 'updated' on comments</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-10463</td>
<td>RPC method 'convertToPersonalSpace' ignores parameter 'newName' for space's new name</td>
<td>Resolved Fixed</td>
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<tr>
<td>CONF-10467</td>
<td>Multimedia WMV files embedded into a Confluence page fail to load</td>
<td>Fixed</td>
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<tr>
<td>CONF-10484</td>
<td>Update http compression documentation</td>
<td>Fixed</td>
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<tr>
<td>CONF-10524</td>
<td>Unable to edit an attachment comment to blank (effectively removing it)</td>
<td>Fixed</td>
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<tr>
<td>CONF-10552</td>
<td>Improve configuration loading performance in ConfluenceCachingBandanaPersister</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-10554</td>
<td>Improve instructions in README text and HTML files in Confluence Standalone zip</td>
<td>Fixed</td>
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<tr>
<td>CONF-10574</td>
<td>Typo in attachment logging statement - &quot;Cound&quot; instead of &quot;Could&quot;</td>
<td>Fixed</td>
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<tr>
<td>CONF-10582</td>
<td>&quot;Printable&quot; version of a page cuts off text when printed.</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-10584</td>
<td>Integrate LDAP troubleshooting tool ('Paddle') into Confluence</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-10587</td>
<td>Include Path Conversion Plugin Points</td>
<td>Fixed</td>
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<tr>
<td>CONF-10605</td>
<td>Groups listed in user profile should link to group search page</td>
<td>Fixed</td>
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</tr>
<tr>
<td>CONF-10611</td>
<td>Improve user listing navigation and make number of users displayed configurable</td>
<td>Fixed</td>
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</tr>
<tr>
<td>CONF-10645</td>
<td>Class cast exception when viewing users in groups and Userlister macro throws ClassCastException when using osuser for user management.</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-10650</td>
<td>No groups are displayed under the &quot;Manage Groups&quot; page if Confluence fails to query an LDAP repository</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-10659</td>
<td>CLONE -pagination problem: 5 pages found but only first 4 are linked linked</td>
<td>Fixed</td>
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<tr>
<td>CONF-10660</td>
<td>Renaming a blogpost to use an illegal character causes exception instead of a simple error/try-again page</td>
<td>Fixed</td>
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<tr>
<td>CONF-10686</td>
<td>Some space permissions lost after upgrade to 2.7.1</td>
<td>Fixed</td>
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<tr>
<td>CONF-10736</td>
<td>Anonymous users can't remove news / blogs even though there is an explicit permissions allowing them to do so</td>
<td>Fixed</td>
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<tr>
<td>CONF-10739</td>
<td>Classic Theme and Attachment Tab</td>
<td>Fixed</td>
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<tr>
<td>CONF-10777</td>
<td>Stop processing views of historical content in the usage tracking plugin</td>
<td>Fixed</td>
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<tr>
<td>CONF-10851</td>
<td>Renderer component plugin documentation</td>
<td>Fixed</td>
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<tr>
<td>CONF-10905</td>
<td>Can edit a news post to have the same title as another post in the same day</td>
<td>Fixed</td>
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<tr>
<td>CONF-10910</td>
<td>Confluence Setup Wizard points to incorrect documentation on CAC</td>
<td>Fixed</td>
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<td></td>
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</tr>
<tr>
<td>CONF-10912</td>
<td>Improve comment threading</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10913</td>
<td>Remove GlobalHelper dependency from Condition implementations</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10936</td>
<td>Incorporate improved German and French translations</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-11016</td>
<td>Toggle area for collapsing comment should have a tooltip</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Confluence 2.8 Screen and Menu Changes

Can't find a menu item in Confluence 2.8? That's understandable, because the user interface (layout of the screens and menus) in Confluence 2.8 has changed dramatically. This page contains a quick summary of the changes. Please read on for a quick and easy introduction.

Refer to Using the Confluence Screens for an overview of the new Confluence menu structure.

On this page:
- What's on this page?
- Confluence 2.8 User Interface in Detail
- New Menu Structure in Confluence 2.8
- Changes to Menu Items in Confluence 2.8
  - RELATED TOPICS

Some of the Confluence documentation will not immediately reflect the new user interface in Confluence 2.8. We are working to rectify the situation as quickly as possible. In the interim, please use this page as a guide.

What’s on this page?
The image below shows a Confluence 2.8 screen, with numbers added to the image. The numbers relate to a table of menu commands below the image, showing the new menu structure. Finally, there is a comprehensive table of menu commands, their new locations and how to get there.

**Confluence 2.8 User Interface in Detail**

The following screenshot and numbered list show the new menu layout in Confluence 2.8.

**Screenshot: Confluence 2.8 Annotated User Interface Changes**

<table>
<thead>
<tr>
<th>New Menu Structure in Confluence 2.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>The numbers in this list relate to the numbers added onto the image above.</td>
</tr>
</tbody>
</table>

1. **‘Space Menu’** containing Pages, News, Labels, Attachments, Bookmarks, Mail, Advanced and Space Admin.
2. **‘User Menu’** containing Personal Space, Preferences, History, Administration (Confluence Administrators only) and Log Out.
3. **‘Edit Button’** which opens the current page for editing.
4. **‘Add Menu’** containing Page, News, Comment, Attachment, Add Bookmark. There may also be other items in this menu, depending upon the plugins you have installed on your Confluence site. For example, Add Diagram (Gliffy plugin) and Add Spreadsheet (EditGrid plugin).
5. **‘Tools Menu’** containing Attachments, History, E-mail, Favourite, Watch, Info, View Wiki Markup, Export to PDF, Export to Word, Copy, Move and Remove.
6. **‘Labels’**. This line shows tags attached to the current page.

**Changes to Menu Items in Confluence 2.8**

This table lists every change to the menu structure that has occurred in Confluence 2.8. Names for some commands have changed, so the old menu option names are listed, next to the new names, with instructions for finding them. (You can search the text on this page for the name of a menu item you used to use in an earlier version of Confluence – you’ll find instructions next to it.)

<table>
<thead>
<tr>
<th>Old items, now under Space Menu</th>
<th>New instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse Space — Pages</td>
<td>Click ‘Space’, ‘Pages’</td>
</tr>
<tr>
<td>Browse Space — News</td>
<td>Click 'Space', 'News'</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Browse Space — Labels</td>
<td>Click 'Space', 'Labels'</td>
</tr>
<tr>
<td>Browse Space — Attachments</td>
<td>Click 'Space', 'Attachments'</td>
</tr>
<tr>
<td>Browse Space — Bookmarks</td>
<td>Click 'Space', 'Bookmarks'</td>
</tr>
<tr>
<td>Browse Space — Mail</td>
<td>Click 'Space', 'Mail'</td>
</tr>
<tr>
<td>Browse Space — Advanced options</td>
<td>Click 'Space', 'Advanced'</td>
</tr>
<tr>
<td>Space Admin</td>
<td>Click 'Space', 'Space Admin'</td>
</tr>
</tbody>
</table>

**Old items, now under Add Menu**

<table>
<thead>
<tr>
<th>Add Page</th>
<th>New instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add News</td>
<td>Click 'Add', 'Page'</td>
</tr>
<tr>
<td>Add Comment</td>
<td>Click 'Add', 'Comment'</td>
</tr>
<tr>
<td>Attachments tab</td>
<td>Click 'Add', 'Attachment'</td>
</tr>
<tr>
<td>Bookmarks</td>
<td>Click 'Add', 'Add Bookmark'</td>
</tr>
<tr>
<td>Add other items to the page, as provided by plugins such as Gliffy diagrams and spreadsheets</td>
<td>Click 'Add' and then select the relevant option (available only if you have the relevant plugin installed)</td>
</tr>
<tr>
<td>Add Spreadsheet</td>
<td>Click 'Add', 'Add Spreadsheet'</td>
</tr>
</tbody>
</table>

**Old items, now under Tools Menu**

<table>
<thead>
<tr>
<th>Attachments tab</th>
<th>New instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>View Page History</td>
<td>Click 'Tools', 'History'</td>
</tr>
<tr>
<td>Email the page to someone</td>
<td>Click 'Tools', 'E-mail'</td>
</tr>
<tr>
<td>Favourite button</td>
<td>Click 'Tools', 'Favourite'</td>
</tr>
<tr>
<td>Watch button</td>
<td>Click 'Tools', 'Watch'</td>
</tr>
<tr>
<td>Info tab</td>
<td>Click 'Tools', 'Info'</td>
</tr>
<tr>
<td>View Wiki Markup</td>
<td>Click 'Tools', 'View Wiki Markup'</td>
</tr>
<tr>
<td>View a printable version of the current page</td>
<td>Click 'File', 'Print Preview' (in your browser menu)</td>
</tr>
<tr>
<td>Export to PDF</td>
<td>Click 'Tools', 'Export to PDF'</td>
</tr>
<tr>
<td>Export to Word</td>
<td>Click 'Tools', 'Export to Word'</td>
</tr>
<tr>
<td>Copy (page)</td>
<td>Click 'Tools', 'Copy'</td>
</tr>
<tr>
<td>Move (page)</td>
<td>Click 'Tools', 'Move'</td>
</tr>
<tr>
<td>Remove (page)</td>
<td>Click 'Tools', 'Remove'</td>
</tr>
</tbody>
</table>

**Miscellaneous page element(s)**

<table>
<thead>
<tr>
<th>Labels</th>
<th>New instructions</th>
</tr>
</thead>
</table>

**RELATED TOPICS**

- Using the Confluence Screens
- Take me back to Confluence User Guide

### Confluence 2.8 Beta Release Notes

**28 March 2008**

Confluence 2.8 will be launched in a few weeks' time. These release notes apply to Confluence 2.8 Beta, which is currently undergoing internal testing. These release notes show the highlights of the upcoming release, although we have not included all the enhancements and bug fixes. We'll publish the final and complete release notes with the release of Confluence 2.8.0.

If you are interested in trying out a developer's release, please take a look at the information and warnings in Development Releases.

**What's Coming in Confluence 2.8**
1 Page Ordering

- One of the most popular feature requests is now reality — Confluence allows manual page ordering.
- You can choose the order in which wiki pages are displayed.
- Use a dynamic tree view to drag and drop your pages into the right position.
- Page order is reflected in all tree views for a space or a page family, including the PageTree macro and exports to PDF, HTML and XML.
- Read the documentation.

2 Dynamic Menus and Simplified Editing

- Drop-down menus replace tabs and links.
- Grouping of functions is more intuitive.
- Features are more visible than before — you may even come across things you didn’t know Confluence had!
- Simplified screen design allows you to focus on editing the page content.
- There is more space for entering text.
- See an overview of the new menu structure and what’s changed.

3 Collapsible Comments

- We’ve beautified the display of comments on pages and news items.
- You can collapse comments to a single line — just click the subject line of a single comment, or ‘Collapse All’.
- It’s easier to keep track of multi-level comment threads.
- When collapsed, a comment shows a single-line excerpt.
- The time stamp is relative for recent comments — for example, it might say 'less than a minute ago'.
- The new ‘permanent link’ icon makes it easier to link directly to a comment from another page.

4 Multiple Label Filter

- Combine more than one label in your label searches.
- Use ‘+’ and ‘-’ links to add or subtract labels from your search.
- Browse labels simply by typing in a URL, such as:

```
http://CONFLUENCE_HOSTNAME/label/qf nd+ideas
```

- Read the documentation.

5 And Lots More

- Enhanced Dynamic Tasklist.
- An installation wizard for Confluence Standalone edition on Windows and Mac.
- Significant performance improvements.
- More administration, management and monitoring tools.
- Plenty of bug fixes to keep everyone happy.

Confluence 2.7.4 Release Notes

Confluence 2.7.4 is the standard edition version of Confluence 2.7.x. This version of Confluence is equivalent to Confluence version 2.7.3, but it does not include Oracle’s Coherence technology. Due to licensing changes with Oracle over the Coherence clustering and distributed caching technology, Atlassian is no longer able to distribute this technology to customers without a Confluence clustered license.

Therefore, Atlassian has released ‘standard editions’ for each previous major version of Confluence back to 2.6, which includes Confluence versions 2.10.4, 2.9.3, 2.8.3, 2.7.4 and 2.6.3. Confluence 2.7.4 will be the only Confluence 2.7.x version available to customers with a non-clustered Confluence license.

For its caching functionality, Confluence 2.7.4 utilises Ehcache. This functionality was provided by the Coherence technology in previous Confluence 2.7.x versions.

For more information about the features, updates and fixes in Confluence 2.7.3, please refer to the Confluence 2.7.3 Release Notes.

Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the Confluence 2.7.3 Upgrade Notes. However, if you have customised the cache settings in your installation of Confluence (e.g. for performance reasons), then please read the Confluence 3.0.1 Upgrade Notes for important information about transferring your caching layer customisations from Coherence to Ehcache.

We strongly recommend that you back up your confluence.home directory and database before upgrading.

Confluence 2.7.3 Release Notes

19 March 2008
Confluence 2.7.3 is a recommended upgrade which focuses on fixing a number of security flaws. Please refer to the security advisory for details of the vulnerabilities, risk assessment and mitigation strategies.

There's a complete list of fixes below. Click a specific issue to see details of the fix, and to download patches where relevant.

Don't have Confluence 2.7 yet?
Take a look at the new features and other highlights in the Confluence 2.7 Release Notes.

Download Latest Version

Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the Confluence 2.7.3 Upgrade Guide. We strongly recommend that you back up your $confluence.home directory and database before upgrading.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues (13 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11316 Removing user throws NullPointerException</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Closed" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11153 XSS vulnerability in social bookmarking plugin bundled in Confluence</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11149 XSS vulnerability in browseusers.vm</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11141 XSS vulnerabilities in insert image and link actions</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11081 URL not encoded for group browser</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11042 XSS vulnerabilities in create space action</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11040 Grouppicker and Userpicker display unescaped user-entered content</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11027 XSS vulnerabilities in create/edit/copy page and blogpost actions</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11026 username not validated in add user to favourites action</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11019 Fix XSS vulnerabilities in the stacktraces and cause by's displayed on the 500 error page</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11005 XSS vulnerability in signup actions</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-11002 viewuser.action has an XSS problem around username</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONF-9559 Cross-site scripting vulnerability in /dashboard.action</td>
<td><img src="icon.png" alt="Priority" /></td>
<td><img src="icon.png" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
</tbody>
</table>

Confluence 2.7.3 Upgrade Guide

Confluence 2.7.3 is a recommended upgrade which focuses on fixing a number of security flaws. You'll find details of the fixes in the release notes.

Upgrade Procedure

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your $confluence.home directory and database.

2. If your version of Confluence is earlier than 2.7.2, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 2.7 upgrade notes.
   - If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.

3. Download the latest version of Confluence.
4. Follow the instructions in the Upgrade Guide.

Confluence 2.7.2 Release Notes

**6 March 2008**

Confluence 2.7.2 is a recommended upgrade which fixes a security flaw and other bugs.

We have fixed a security flaw which allowed users who have 'View' permission (or higher) on a space to purge any page in that space. For details, please refer to the security advisory and related JIRA issue.

Other good fixes in this point release:

- The Rich Text editor no longer breaks links to pages in other spaces.
- Some customers have reported problems with permissions after upgrading to Confluence 2.7.1, where some space permissions or global permissions were lost if using a case-sensitive database. From Confluence 2.7.2, the space permissions and global permissions screens will display a message highlighting any case-sensitivity problems. We have also provided a routine to fix existing permissions affected by this issue — read the detailed instructions on running the routine.
- The JIRA Portlet macro now displays correctly when using trusted communication between JIRA and Confluence.
- Confluence 2.7.2 also clarifies the procedures around renewing your license before upgrading.

There’s a complete list of fixes below. Click a specific issue to see details of the fix, and to download patches where relevant.

**Don’t have Confluence 2.7 yet?**

Take a look at the new features and other highlights in the Confluence 2.7 Release Notes.

**Download Latest Version**

Upgrading from a Previous Version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the Confluence 2.7.2 Upgrade Guide. We strongly recommend that you back up your confluence.home directory and database before upgrading.

**Updates and Fixes in this Release**

<table>
<thead>
<tr>
<th>JIRA Issues (23 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-11638</td>
<td>Formatting of Recently-updated macro broken at the space level if not using Default Confluence Theme</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10807</td>
<td>Users with view permissions on a space are able to delete (purge) pages they don't have permission to edit/access</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10777</td>
<td>Stop processing views of historical content in the usage tracking plugin</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10686</td>
<td>Some space permissions lost after upgrade to 2.7.1</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10621</td>
<td>Improve logging in DefaultSpacePermissionManager</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10534</td>
<td>Fix documentation links in EAR/WAR README file</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10467</td>
<td>Multimedia WMV files embedded into a Confluence page fail to load</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10465</td>
<td>JIRA Portlet Macro not displaying when authenticating using the trusted application between JIRA and Confluence</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10458</td>
<td>WYSIWYG rich text editor breaks links to pages</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10431</td>
<td>Userlister macro no longer seems to work if you don't supply a &quot;group&quot; parameter</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10410</td>
<td>Distortion of dashboard while using Left Navigation Theme</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10399</td>
<td>Formatting problems of recentlyupdated.action with leftnavigation theme</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-10305</td>
<td>Multimedia *.swf files are not able to render in Internet Explorer browser</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Confluence 2.7.2 Upgrade Guide

Confluence 2.7.2 is a recommended upgrade which fixes a security flaw and other bugs. You’ll find details of the fixes in the release notes.

Upgrade Procedure

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your confluence.home directory and database.

2. If your version of Confluence is earlier than 2.7.0, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   • Please read the 2.7 upgrade notes.
   • If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

Confluence 2.7.1 Release Notes

24 January 2008

Presented with pleasure by the Atlassian Confluence team: Confluence 2.7.1 is a recommended upgrade which fixes a security flaw and other bugs, and brings a couple of improvements.

We have identified and fixed an XSS (cross-site scripting) security flaw which may affect Confluence instances in a public environment. For details, please refer to the security advisory.

Recording of authorship and history for page attachments is improved, so that attachment history is now retained after operations such as editing the attachment or moving it to a new page.

A new option on the Export Space screen allows administrators to export all pages to XML even when page-restrictions deny the administrator access to some of the pages.

This release also fixes problems in the following areas:

- The SOAP API, which was broken in Confluence 2.7.0.
- Logging.
- Internationalisation (support for different languages).
- Case-sensitivity for usernames and group names when using LDAP integration, and problems with upper-case letters in usernames when applying space permissions.

There’s a complete list of fixes below. Click a specific issue to see details of the fix, and to download any patches where relevant.
Confluence 2.7.1 is available from the download centre.

Upgrading from a previous version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the upgrade instructions. We strongly recommend that you back up your confluence.home directory and database before upgrading!

Updates and fixes in this release

<table>
<thead>
<tr>
<th>JIRA Issues</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONF</td>
<td>13848</td>
<td>CLONE -Space export does not export restricted pages.</td>
<td></td>
<td>Resolved</td>
<td>Incomplete</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10436</td>
<td>Document update to attachment details</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10434</td>
<td>Document update to export space screen</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10392</td>
<td>Confluence javac should not fork</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10359</td>
<td>http.proxyPort System property is ignored</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10311</td>
<td>Improve WebLinks in Confluence to allow for customizing the baseURL</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10302</td>
<td>Poor handling of null request in DashboardMacroSupport.getRequestParameter() during exports (such as HTML and PDF)</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10289</td>
<td>Security vulnerability with Dashboard spacesSelectedTab</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10269</td>
<td>ContentEntityObject.getAttachmentNamed() doesn't return the latest version of attachment</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10268</td>
<td>Hibernate SQL logging does not show up on confluence 2.6.2 and 2.6.1</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10245</td>
<td>(note) (warning) (info) (tip) macros do not display a standard width when using Classic Theme</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10235</td>
<td>Confluence 2.7 SOAP API is broken</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10213</td>
<td>XML RPC server uses platform default character encoding to decode requests</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10201</td>
<td>&quot;org.apache.commons.logging.impl.Jdk14Logger does not implement Log&quot; on Websphere due to commons-loging-1.0.jar</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>10140</td>
<td>XML-RPC does not handle Japanese characters in page title and content</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>9923</td>
<td>Cannot switch to english language after upgrading to 2.6.0 from 2.5.4 with german language pack</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>9867</td>
<td>Entering invalid space key in URL allows setting of invalid global permissions</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>9609</td>
<td>Space key with &quot;-&quot; (hyphen) thows exception</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>9488</td>
<td>The Recently Updated Content Macro fails to export to HTML</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>9469</td>
<td>Upper case letters in user names fail with space permissions</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>9265</td>
<td>Attachment history gets lost</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF</td>
<td>8863</td>
<td>Retain the Original Create Date on Attachments despite Edits to FileName, Comment Type, Content Type, or Page location</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
Confluence 2.7.1 Upgrade Guide

Confluence 2.7.1 is a recommended upgrade which fixes a security flaw and other bugs, and brings a couple of improvements. You’ll find details of the fixes in the release notes.

Upgrade Notes

As part of the fix for case-sensitivity in usernames and group names when using LDAP integration (CONF-9469), an upgrade task will consolidate permissions for the same user or groups where they differ only by case.

Depending on the size of your Confluence installation (number of spaces and the permissions applied to them) the upgrade task could result in a longer-than-usual delay when starting Confluence for the first time after the upgrade. Please be patient while this happens — it could take a few minutes.

During this process there will be regular progress reports in the log, something like this:

```
[atlassian.confluence.upgrade.ConsolidatePermissionsUpgradeTask] doUpgrade Consolidating SpacePermissions for Space Monkeys in a Barrel (key=MONBAR)
```

Backup essential, because permissions will be modified

The upgrade task will modify permissions in your Confluence database. So that our usual ‘strong recommendation’ to back up the database becomes even stronger.

Upgrade Procedure

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your confluence.home directory and database.
2. If your version of Confluence is earlier than 2.7.0, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - Please read the 2.7 upgrade notes.
   - If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.
3. Download the latest version of Confluence.
4. Follow the instructions in the Upgrade Guide.

Confluence 2.7 Release Notes

12 December 2007: With great pleasure, the Atlassian Confluence team presents Confluence 2.7.

Confluence 2.7 has improvements for administrators and end-users alike. Administrators can set up trusted communication between Confluence and JIRA. The result? The JIRA Issues and JIRA Portlet macros will show only the issues which the Confluence user is authorised to see. You no longer need to include a username and password in the markup code.

The two-tier administrator permissions allow system administrators to delegate some functions to team leaders or managers. Logging is simplified, and administrators can change logging levels at runtime. The improved user management framework speeds up your user searches.

Sorting of images is now possible in the Gallery macro. And when creating a page or news item, you can attach images or files immediately, without waiting until you have saved the page.

- Upgrading to Confluence 2.7 is free for all customers with active Confluence software maintenance as at 12 December 2007.
- Thank you for all your issues and votes. Keep on logging!
- We’ve highlighted our favourite bits of this new release below.
And there's more.

**Upgrading to Confluence 2.7**

Upgrading Confluence should be fairly straightforward. *We strongly recommend that you back up your confluence.home directory and database before upgrading!* Please refer to the upgrade instructions. There you will find instructions on upgrading, and details of the following:

- If you are using any third-party plugins, please test them thoroughly before rolling 2.7 into production.
- If you are using the Resin application server, you will need to configure Resin to use an XML parser that is XSD-aware.
- When upgrading, you should consider turning off the new JIRA/Confluence trusted communication feature and/or warnings.
- Your users will be automatically migrated to AtlassianUser during the Confluence upgrade process.
- All users and groups with the old 'Administer Confluence' permission will be converted to the new 'System Administrator' permission.
- By default, all installations of Confluence will now write log messages to the Confluence home directory instead of the application server's log file.
- Java 1.4 will be deprecated after Confluence 2.8.
- Read more information.

**Responding to your feedback:**

- 4 new feature requests implemented
- 380 votes satisfied

**Highlights of this release:**

- JIRA Issues and Portlet macros use new trusted authentication
- Two-tier administrator permissions
- Inserting images and attaching files during page creation
- Sorting of images in Gallery macro
- Simplified and improved logging
- Performance, maintainability and administration
- Plus over 90 fixes and improvements

**Highlights of Confluence 2.7**

**JIRA Issues and Portlet macros use new trusted authentication**

- The JIRA Issues macro and the JIRA Portlet macro allow you to display a list of JIRA issues on your Confluence page.
- Prior to Confluence 2.7, you had to include a username and password in the markup code if you needed to display issues with restricted viewing. This release and JIRA 3.12 solve the problem.
- Read more about trusted communication.
Example markup – User will see the issues they are authorised to see (provided trusted communication is enabled):

```
{jiraissues:url=CONTENT|columns=type;key;summary}
```

Example markup – User will see only the issues authorised for anonymous viewing:

```
{jiraissues:url=CONTENT|columns=type;key;summary|anonymous=true}
```

Two-tier administrator permissions

- The original 'Administer Confluence' permission is now called 'System Administrator'.
- A new permission level, called 'Confluence Administrator', is similar to 'System Administrator' but excludes the functions which may compromise the security of the Confluence system.
- You can delegate administrator privileges to project managers or team leaders while preserving the security of your Confluence site, by granting the managers the new 'Confluence Administrator' permission.
- Read the documentation.
Inserting images and attaching files during page creation

- You can now attach an image or other file during creation of new page – before you have saved the page.
- This applies to pages and news items.
- We have standardised the options for Wiki Markup mode and the Rich Text editor:
  - The 'Insert Image' popup allows you to select thumbnails and alignment.
  - The 'Insert Link' popup allows aliases and tooltips.
- Read more about inserting an image and attaching a file to a page.
Sorting of images in Gallery macro

- The new ‘sort’ argument allows you to order the images by file name, comment or date last modified.
- Read the documentation.

Example: Sorting the images by file name

```
{gallery:title=Some office photos, and a waterfall|sort=name}
```

Example: Sorting the images by date and showing the most-recently-modified first

```
{gallery:title=Some office photos, and a waterfall|sort=date|reverseSort}
```
Simplified and improved logging

- Confluence now writes its logs to the Confluence home directory. Both the Standalone and the EAR/WAR editions behave in the same way. For more information, see the logging documentation.
- We have rationalised the reporting to the different levels (ERROR, INFO, WARN, etc) and removed many unnecessary exceptions and stacktraces from the logs.
- You can change the logging levels while Confluence is running. Read more information.

Performance, maintainability and administration

- If you are currently using the standard configuration for user management, your users will be automatically migrated to the AtlassianUser framework on upgrade to Confluence 2.7. See the upgrade notes. This will result in a dramatic increase in the speed of user searches.
- Confluence now supports Java 6, allowing you to take advantage of its performance improvements.
- A further set of improvements to the stability of your Confluence system.

Plus over 90 fixes and improvements

- You’ll no longer see those annoying browser messages when you click the browser's 'Back' button, for example after viewing search results.
- We've fixed some problems with the image and file attachment popups, and made them behave in the same way for both the Rich Text Editor and Wiki Markup.
- See the list of features, improvements and bug fixes.

The Confluence 2.7 team

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Confluence 2.7 Upgrade Guide

Confluence 2.7 has improvements for administrators and end-users alike. Administrators can set up trusted communication between Confluence and JIRA. The result? The JIRA Issues and JIRA Portlet macros will show only the issues which the Confluence user is authorised to see. You no longer need to include a username and password in the markup code.

The two-tier administrator permissions allow system administrators to delegate some functions to team leaders or managers. Logging is simplified, and administrators can change logging levels at runtime. The improved user management framework speeds up your user searches.

Sorting of images is now possible in the Gallery macro. And when creating a page or news item, you can attach images or files immediately, without waiting until you have saved the page.

Refer to the release notes for details of the features, improvements and bug fixes in this release.

On this page:
- Upgrade notes
- Plugins
- Configuring Resin
- Trusted communication between JIRA and Confluence
- WebDAV attachment manager deprecated
- User migration
- System Administrator and Confluence Administrator permissions
- Location of Confluence logs
- Java versions
- Upgrade procedure

Upgrade notes

Plugins

If you are using any third-party plugins, please test them thoroughly before rolling 2.7 into production.

Configuring Resin

This note applies if you are using the Resin application server. Due to an upgrade to one of the core components of Confluence (namely Spring), it will no longer work against an out-of-box configuration of Resin. To resolve this, you will need to configure Resin to use an XML parser that is XSD-aware. More information:

- Troubleshooting a Resin configuration
- Spring Framework documentation

Trusted communication between JIRA and Confluence

Confluence 2.7 provides a new trusted communication protocol, to allow secure authentication for the JIRA Issues and JIRA Portlet macros.

When upgrading, consider whether to disable warning messages or turn off trusted communication altogether. You may like to do this if you have a number of existing JIRA Issues or JIRA Portlet macros in your Confluence pages, and you do not intend to set up trusted communications soon. Read more about configuring trusted communications.

By default, trusted communication will be enabled when you upgrade to Confluence 2.7. This will affect your existing macros as follows:

- If the macro markup contains a username and password, the functionality is unchanged.
- If you have already set up trusted communication with a JIRA instance, the macro output will be as described in the guide on trusted communication.
- If the macro markup does not contain a username and password and you have not set up trusted communication with a JIRA instance, your Confluence pages will show a warning message above the macro output. See more information on troubleshooting.

WebDAV attachment manager deprecated

The option to store Confluence attachments on a WebDAV server has never worked in a useful fashion, and has not been maintained for many versions.

The WebDAV attachment manager is deprecated from Confluence 2.7, and will be removed from a future version of Confluence. If you store
attachments on external WebDAV servers, we recommend that you migrate to file-system or database-backed attachment storage immediately. Refer to CONF-9313 and CONF-2887.

⚠️ This DOES NOT affect the operation of the WebDAV plugin.

User migration

Confluence 2.7 replaces OSUser with AtlassianUser as the underlying user management framework, greatly improving performance. Read more information about user management in Confluence.

When you upgrade from an earlier version of Confluence to release 2.7.0 or later, your users will be automatically migrated to AtlassianUser (but see the exceptions in the next paragraph). You may notice that your upgrade takes longer than usual, due to this migration process.

⚠️ Automatic migration will not occur if any of the following is true:

- You have delegated user management to either JIRA or LDAP, or you have changed your user management from the standard configuration. If this is the case, you should upgrade as usual, ensuring that you retain your existing `atlassian-user.xml` or `osuser.xml` file.
- You have already migrated to AtlassianUser.

The progress of the migration will be shown in your log files. For example, a successful migration will show:

```plain
2007-10-08 21:33:07,979 INFO [main] [atlassian.confluence.upgrade.OSUserToAtlassianUserMigrationUpgradeTask] userMigrationStarted
Starting user migration. 12288 users to migrate.
2007-10-08 21:33:09,784 INFO [main] [atlassian.confluence.upgrade.OSUserToAtlassianUserMigrationUpgradeTask] userMigrated 100 users migrated out of 12288.
...
2007-10-08 21:36:18,304 INFO [main] [atlassian.confluence.upgrade.OSUserToAtlassianUserMigrationUpgradeTask] userMigrated 12100 users migrated out of 12288.
2007-10-08 21:36:20,112 INFO [main] [atlassian.confluence.upgrade.OSUserToAtlassianUserMigrationUpgradeTask] userMigrated 12200 users migrated out of 12288.
2007-10-08 21:36:21,562 INFO [main] [atlassian.confluence.upgrade.OSUserToAtlassianUserMigrationUpgradeTask] userMigrationComplete
User migration complete.
...
2007-10-08 21:36:38,208 INFO [main] [atlassian.confluence.upgrade.OSUserToAtlassianUserMigrationUpgradeTask] groupMigrationComplete
Group migration complete.
```

System Administrator and Confluence Administrator permissions

Confluence 2.7 brings two administrator-level permissions in place of one. The new permissions are 'System Administrator' and 'Confluence Administrator'. Refer to the documentation for details.

When you upgrade to version 2.7, all users and groups with the old 'Administer Confluence' permission will be converted to the new 'System Administrator' permission. The powers of the 'confluence-administrators' group remain unchanged.

Location of Confluence logs

Confluence’s default logging behaviour has changed with Confluence 2.7. Both Standalone and EAR/WAR distributions follow the same default behaviour:

- When you start Confluence, log entries will be sent to the application server logs until Confluence has completed its initial bootstrap. Any log entries will be repeated into the `<confluence-home>/logs/atlassian-confluence.log`. For example: `c:/confluence/data/logs/atlassian-confluence.log`.

⚠️ Note that the default location is now the Confluence home directory instead of the application server's log file.

Java versions

Confluence 2.7 supports Java 1.4, Java 5 and Java 6. We recommend Java 6 because of its increased performance and easier troubleshooting, due to enhanced memory dump and profiling capabilities.
Advance notice: Java 1.4 will be deprecated in a future release. Confluence 2.8 will be the last version that supports Java 1.4.

Upgrade procedure

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your confluence.home directory and database.

2. If your version of Confluence is earlier than 2.6.x, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.
   - If you are upgrading from a version earlier than 2.6.0, please read the 2.6 upgrade notes.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

Issues Resolved in Confluence 2.7

Below is the full list of issues resolved by Confluence 2.7. You can read the release notes here.

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (118 issues)</th>
<th>Type Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-1339</td>
<td>WebDAV support pass-thru permissions</td>
<td>Resolved</td>
<td>Won't Fix</td>
<td></td>
</tr>
<tr>
<td>CONF-1545</td>
<td>Add New User form too small (too narrow)</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2127</td>
<td>A page containing the rss-macro is not displayed if the requested rss-feed is &quot;down&quot;</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2219</td>
<td>Enable adding attachments while creating new page or news</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2285</td>
<td>AbstractHttpRetrievalMacro is too noisy in logs</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2711</td>
<td>Better authentication method for jiraissues and jiraportlet macros</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2866</td>
<td>Enable administrator to change loglevels at runtime</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3232</td>
<td>Insert-image-popup makes cursor position jump to top of text area</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4100</td>
<td>Return to search for Confluence</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4738</td>
<td>Make search redirect to GET, so that back button works</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4778</td>
<td>Allow {gallery} macro to sort by filename or by date</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5218</td>
<td>Permissions administration permits adding a user as a group</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5405</td>
<td>Don't allow creation of a user with the same name as an existing group</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5457</td>
<td>Indexing errors and imprecise logging (&quot;Looks like an invalid size&quot;) with certain Powerpoint (ppt) attachments</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5749</td>
<td>Migration tool used to move from OSUSer to AtlassianUser should distinguish external users</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6582</td>
<td>Write logs to $confluence_home/logs</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6597</td>
<td>Image-attachment popup should not ask user for filename</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6766</td>
<td>The Recently-used-labels-Macro displays duplicate labels</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7048</td>
<td>Profile user searching and address search bottlenecks</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7303</td>
<td>Searching for users by name should not retrieve every user</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7457</td>
<td>Remove meta cache control elements from Confluence HTML</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7481</td>
<td>Officially support Java 1.6</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7567</td>
<td>Lists don’t have same amount of whitespace beneath headings (compared to normal text beneath headings)</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7599</td>
<td>Automatically migrate Confluence installations to using Hibernate storage for atlassian-user users</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7600</td>
<td>Servlet plugin does not unload classes cleanly</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7975</td>
<td>Migrate c.a.c to hibernate user repository</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8020</td>
<td>Missing context on indexing exceptions / errors</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8280</td>
<td>Export code fails when executed in non-servlet context</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8311</td>
<td>User picker: Javascript error occurs for users whose names contain double-quotes</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8754</td>
<td>Javascript (and logfiles) error in Rich-Text-Editor for anonymous users: “couldn’t find resource ‘/plugins/tinymce/css/table.css”</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8879</td>
<td>User permissions are cached beyond user removal, so a deleted-and-recreated user may temporarily have wrong permissions</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8887</td>
<td>Incorporate warning message into footer when confluence installation is using HSQL</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8902</td>
<td>Attachment-operation separator (“pipe symbol”) is displayed even when some operations are not visible</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8910</td>
<td>ArrayIndexOutOfBoundsException in MsPowerpointContentExtractor</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8922</td>
<td>WYSIWYG editor: language values for german are missing</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9074</td>
<td>Mail links broken in PDF export</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9079</td>
<td>webdav as a attachment store does not work</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9117</td>
<td>Confluence API supports adding user with null password, but users will null passwords produce NullPointerException when using the osuser2atluser.jsp migration utility jsp</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9129</td>
<td>Introduce 'Confluence Administrator' permission (less powerful than 'System Administrator' permission)</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9178</td>
<td>LDAP groups sometimes not shown for a user when Confluence is clustered</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9195</td>
<td>Confluence 2.5.6 ldap configuration failing on osuser2atluser.jsp migration</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9289</td>
<td>Resources served from /display/* are not sent with correct cache headers</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9290</td>
<td>Improve browser-caching and back-navigation by removing the &quot;no-store&quot; cache control headers</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td></td>
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<tr>
<td>CONF-9337</td>
<td>Include timestamp on the &quot;Recently Updated&quot; section on Dashboard</td>
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<tr>
<td>CONF-9367</td>
<td>Log all available data displayed on the 500 page to the logfile as well, and provide a unique identifier on page for easy bug retrieval from logs</td>
<td></td>
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<tr>
<td>CONF-9373</td>
<td>XWork plugin load failure can cause subsequent XWork plugins to be unloadable</td>
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<tr>
<td>CONF-9379</td>
<td>Organise spring config files more sanely</td>
<td></td>
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<tr>
<td>CONF-9394</td>
<td>Option to disable &quot;secure&quot; cookie when using HTTPS just for login page</td>
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<tr>
<td>CONF-9409</td>
<td>Image-attachment popup design causes image attachments to fail</td>
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<tr>
<td>CONF-9432</td>
<td>Document (better) where the log files can be located</td>
<td></td>
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<tr>
<td>CONF-9434</td>
<td>Enabling Caching for Hibernate Repository causes net.sf.hibernate.LazyInitializationException error</td>
<td></td>
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<td></td>
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<tr>
<td>CONF-9442</td>
<td>Make &quot;insert-image-popup&quot; and &quot;link-popups&quot; consistent across rich text and wiki editors</td>
<td></td>
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</tr>
<tr>
<td>CONF-9444</td>
<td>Clean up default link bodies for &quot;raw&quot; links.</td>
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<tr>
<td>CONF-9445</td>
<td>Logfiles: Incomplete and missing logging of exceptions</td>
<td></td>
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</tr>
<tr>
<td>CONF-9447</td>
<td>Log important information to INFO (instead of to DEBUG, or not at all)</td>
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<tr>
<td>CONF-9466</td>
<td>Hibernate exception when removing space, due to cascade relationship</td>
<td></td>
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<tr>
<td>CONF-9468</td>
<td>Deprecate com.atlassian.confluence.renderer.WikiStyleRenderer and its default Confluence implementation</td>
<td></td>
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<tr>
<td>CONF-9473</td>
<td>Character-Encoding ISO-8859-1 does not work in jiraissues macro</td>
<td></td>
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<tr>
<td>CONF-9520</td>
<td>Update documentation for logging to home directory feature</td>
<td></td>
<td></td>
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<tr>
<td>CONF-9530</td>
<td>Merge changes from tiny-mce stable branch back to main trunk before releasing trunk changes into confluence</td>
<td></td>
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<tr>
<td>CONF-9531</td>
<td>Document new parameters on gallery macro</td>
<td></td>
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<tr>
<td>CONF-9566</td>
<td>Breadcrumbs for attachment page displays error</td>
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<tr>
<td>CONF-9583</td>
<td>After deleting a user (and using OSUser repository), some of the user details still remain in the database</td>
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<tr>
<td>CONF-9591</td>
<td>Confluence doesn't start when only os user repository is configured in atlassian-user.xml</td>
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<tr>
<td>CONF-9610</td>
<td>Remove empty *Action.properties files</td>
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<tr>
<td>CONF-9623</td>
<td>userAccessor.removeGroup(...) fails in Confluence 2.6.0</td>
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<tr>
<td>CONF-9626</td>
<td>Logging of job-progress should be done with an aspect or wrapper</td>
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<tr>
<td>CONF-9658</td>
<td>&quot;Link Properties-Popup&quot; looks broken in classic-based themes (left nav, clickr, classic)</td>
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<tr>
<td>CONF-9700</td>
<td>Plugin repository not available on websphere 5.1.10</td>
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<td></td>
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<tr>
<td>CONF-9717</td>
<td>Exceptions thrown while retrieving internationalised text halt rendering of entire page</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9734</td>
<td>Thumbnails are not regenerated if a new attachment of the same name is uploaded</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9738</td>
<td>Move to new pom architecture</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9743</td>
<td>RPC plugins cannot be loaded dynamically</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9778</td>
<td>Changes to user-preferences sometimes don't propagate across a cluster to the other nodes</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9794</td>
<td>Images attached to pages (with very large page ids) don't render in preview mode</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9811</td>
<td>User migration from an OSUser to a Crowd repository fails.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9836</td>
<td>Remove WebDAV attachment manager documentation</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9843</td>
<td>The Warning-, Info-, Tip- and Note-Macros do not expand to full column/screen width</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9852</td>
<td>Upgrade to Atlassian-Extras 1.10</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9876</td>
<td>The URLs in the footer are rendered with a missing /</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9894</td>
<td>Group picker: Javascript error occurs for groups whose names contain double-quotes</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9896</td>
<td>Rework the Space Export functionality - broken by 2.6 changes.</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9899</td>
<td>Confluence throws ClassCastException when you are trying to edit a blogpost</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9908</td>
<td>Border underneath the main page tabs is not rendered on IE</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9914</td>
<td>Breadcrumb on &quot;Running Tasks&quot; doesn't list the Dashboard</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9938</td>
<td>Prevent calls to external websites from blocking Confluence</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9943</td>
<td>Filter and thread-local for &quot;request timestamp&quot;</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9944</td>
<td>Functional test RPC plugin should provide getText(key) method</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9947</td>
<td>TestBean prevents execution of units tests for confluence module when run individually</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9948</td>
<td>Incorrect comments link on blog post (in clickr theme)</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9950</td>
<td>Enable standards-compliant HTML-rendering by changing DOCTYPE from HTML 4.0 to HTML 4.01</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9951</td>
<td>Integrate Seraph's trusted applications infrastructure</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9957</td>
<td>Document the new API to export resource content for plugin developers</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9964</td>
<td>Textual changes on Attachment Storage admin page to deprecate WebDAV</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9968</td>
<td>Spelling mistake in line 79 of Page-hierarchy.pdfexport.vm file</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>
Confluence 3.0 Documentation

CONF-9984 Superfluous exception logging from createrssfeed.action (java.io.IOException: WEB8001: Write failed)  
Resolved  
Fixed

CONF-9989 Using the attachments macro in a comment is broken and disables access to the whole page  
Resolved  
Fixed

CONF-9994 Built-in profile picture breaks on upgrade due to change in file format from .png to .gif  
Resolved  
Fixed

CONF-9995 Shared Mode setting gets overwritten by general configuration  
Resolved  
Fixed

CONF-10003 Unit tests create a SpringContext for every test case  
Resolved  
Fixed

CONF-10028 RSVP macro problem when page title contains unsafe url characters  
Resolved  
Fixed

CONF-10032 Database driver version not displayed when using datasource  
Resolved  
Fixed

CONF-10041 Add/watch icon layout broken in Safari 3.0  
Resolved  
Fixed

CONF-10056 i18n error in email subject  
Resolved  
Fixed

CONF-10094 Password reset e-mail does not give new password; instead gives $action.newPassword  
Resolved  
Fixed

CONF-10111 Missing i18n strings  
Resolved  
Fixed

CONF-10120 Users listed in a group (in admin console) are not sorted alphabetically with Hibernate-based user management  
Resolved  
Fixed

CONF-10122 Insert link popup does not have its alias field populated with the text the user has highlighted  
Resolved  
Fixed

CONF-10143 ClassCastException creating RSS feed because a Mail instance being cast to an AbstractPage  
Resolved  
Fixed

CONF-10164 XSS vulnerability in recently updated and configure RSS feed actions  
Resolved  
Fixed

CONF-10173 Supply new indexes.ddl file for Upgrade Guide  
Resolved  
Fixed

CONF-10175 Information breadcrumb on certain page types is a broken link  
Resolved  
Fixed

CONF-10185 General configuration displays $timeouts.heading instead of Connection Timeouts  
Resolved  
Fixed

CONF-10211 Missing internationalization on global layouts configuration page  
Resolved  
Fixed

CONF-11210 Improve speed of "Atlassian Plugin Repository"  
Resolved  
Fixed

CONF-11832 Http Timeout Documentation is Out Of Date  
Closed  
Fixed

CONF-12177 Duplicate user accounts allowed in database because no unique constraint configured on USER table  
Closed  
Fixed

CONF-12509 Check array size exceeding VM limit during indexing  
Closed  
Fixed

Confluence 2.6.3 Release Notes

Confluence 2.6.3 is the standard edition version of Confluence 2.6.x. This version of Confluence is equivalent to Confluence version 2.6.2, but it does not include Oracle’s Coherence technology. Due to licensing changes with Oracle over the Coherence clustering and distributed caching technology, Atlassian is no longer able to distribute this technology to customers without a Confluence clustered license.

Therefore, Atlassian has released ‘standard editions’ for each previous major version of Confluence back to 2.6, which includes Confluence
Atlassian is proud to announce the release of Confluence 2.6.2. This is a **highly recommended** upgrade, because it fixes some security flaws which may affect Confluence instances in a public environment. These flaws are XSS (cross-site scripting) vulnerabilities in some of Confluence's macros and Wiki Markup, which potentially allowed a user to insert malicious HTML tags or script into a Confluence page. Please refer to the Security Advisory for details.

This point release also includes more than 20 other fixes and improvements.

As part of our drive to tighten up the security in Confluence, we have removed support for the 'style' attribute in the Wiki Markup for images. This was an undocumented feature, which is now no longer available. To help those who may have used the 'style' tag to add coloured borders, we have added a new `bordercolor` attribute to the `image` markup.

The PDF and HTML space exports are now more reliable than in Confluence 2.6.0 and 2.6.1. We've fixed the failure to send daily digest email notifications. (This problem occurred when the Confluence instance contained draft pages.) This release also contains some improvements in the wiki's support of internationalisation. And you'll be delighted to see that the plus and minus buttons are back, next to the 'Recently Updated' section of the Dashboard – so you can now increase or decrease the number of items you see in that section.

There's a complete list of fixes below. You can download Confluence 2.6.2 from the download centre.

### Upgrading from a previous version of Confluence

Upgrading Confluence should be fairly straightforward. Please read the upgrade instructions. **We strongly recommend that you back up your confluence.home directory and database before upgrading!**

### Updates and fixes in this release

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

**JIRA Issues (26 issues)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-10042</td>
<td>log4j references ConfluenceHomeLogAppender class that does not exist in 2.6.1</td>
<td>🚨</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-10008</td>
<td>Document bordercolor attribute on wiki markup for images</td>
<td>🚨</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9975</td>
<td>error saving new or existing documents when using the Rich Text Editor</td>
<td>🚨</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9890</td>
<td>Typo in the Wiki Notation guide - {{monspaced}}</td>
<td>🚨</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9877</td>
<td>CustomCJKAnalyzer does not work with JDK 1.6</td>
<td>🚨</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-9873</td>
<td>Concurrent Modification Exception caused when accessing a space in clustered version of Confluence</td>
<td>🚨</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9866</td>
<td>Replace System.out, System.err and printStackTrace references with logging</td>
<td>🚨</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9807</td>
<td>On the Administrators page e-mail addresses are shown &quot;<a href="mailto:user@domain.com">mailto:user@domain.com</a>&quot; instead of &quot;<a href="mailto:user@domain.com">user@domain.com</a>&quot;</td>
<td>🚨</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-9804</td>
<td>Move the XFire dependency for Crowd from 1.2.1 to 1.2.6</td>
<td>🚨</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>
### Confluence 2.6.2 Upgrade Guide

27 November 2007

Atlassian is proud to announce the release of Confluence 2.6.2. This is a highly recommended upgrade, because it fixes some security flaws which may affect Confluence instances in a public environment. These flaws are XSS (cross-site scripting) vulnerabilities in some of Confluence’s macros and Wiki Markup, which potentially allowed a user to insert malicious HTML tags or script into a Confluence page. Please refer to the Security Advisory for details.

This point release also includes more than 20 other fixes and improvements.

As part of our drive to tighten up the security in Confluence, we have removed support for the ‘style’ attribute in the Wiki Markup for images. This was an undocumented feature, which is now no longer available. To help those who may have used the ‘style' tag to add coloured borders, we have added a new ‘bordercolor’ attribute to the image markup.

The PDF and HTML space exports are now more reliable than in Confluence 2.6.0 and 2.6.1. We've fixed the failure to send daily digest email notifications. (This problem occurred when the Confluence instance contained draft pages.) This release also contains some improvements in the wiki’s support of internationalisation. And you'll be delighted to see that the plus and minus buttons are back, next to the ‘Recently Updated’ section of the Dashboard – so you can now increase or decrease the number of items you see in that section.

**Upgrade Procedure**

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:
1. Before you upgrade, we strongly recommend that you back up your confluence.home directory and database.

2. If your version of Confluence is earlier than 2.6.1, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.
   - If you are upgrading from a version earlier than 2.6.0, please read the 2.6 upgrade notes.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

**Confluence 2.6.1 Release Notes**

9 November 2007

Atlassian is proud to announce the release of Confluence 2.6.1. This is a highly recommended upgrade from 2.6, because it fixes some security flaws which may affect Confluence instances in a public environment. We will release more details of the security fixes within a few days, giving our customers a chance to upgrade before the details are made public. This point release also includes more than 40 other fixes and improvements.

We're especially glad that anonymous comments will no longer show the profile picture of the previous commenter, and newly-created spaces no longer seem to have been created by an anonymous user. The {excerpt} and {excerpt-include} macros now behave better. And we've fixed some issues with internationalisation.

There's a complete list of fixes below.

You can download Confluence 2.6.1 from the download centre.

---

**Security Advisory 19 November 2007**

We have now published the details of the security vulnerabilities, which are fixed in Confluence 2.6.1. Please refer to the security advisory for more information.

---

**Upgrading from a previous version of Confluence**

Upgrading Confluence should be fairly straightforward. Please read the upgrade instructions. We strongly recommend that you back up your confluence.home directory and database before upgrading!

**Updates and fixes in this release**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

**JIRA Issues (50 issues)**

<table>
<thead>
<tr>
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<th>Summary</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-9960</td>
<td>Missing files from the Confluence 2.6.1 standalone zip file</td>
<td><img src="icon" alt="Resolved" /> <img src="icon" alt="Fixed" /></td>
<td><img src="icon" alt="Resolved" /> <img src="icon" alt="Fixed" /></td>
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<tr>
<td>CONF-9949</td>
<td>Confluence 2.6.1 bundled Tomcat missing the java 1.4 compatibility jar</td>
<td><img src="icon" alt="Resolved" /> <img src="icon" alt="Fixed" /></td>
<td><img src="icon" alt="Resolved" /> <img src="icon" alt="Fixed" /></td>
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<td>CONF-9824</td>
<td>Macros returning null from getBodyRenderMode() cause page edits to fail</td>
<td><img src="icon" alt="Resolved" /> <img src="icon" alt="Fixed" /></td>
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<td>CONF-9799</td>
<td>atlassian-confluence.log not generated in Confluence 2.6 standalone</td>
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<td>CONF-9760</td>
<td>Confluence 2.6.0 needs dependency cleanup</td>
<td><img src="icon" alt="Closed" /> <img src="icon" alt="Fixed" /></td>
<td><img src="icon" alt="Closed" /> <img src="icon" alt="Fixed" /></td>
<td></td>
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<tr>
<td>CONF-9732</td>
<td>User migration JSP script for LDAP intergation is not compatible with JDK 1.4</td>
<td><img src="icon" alt="Closed" /> <img src="icon" alt="Fixed" /></td>
<td><img src="icon" alt="Closed" /> <img src="icon" alt="Fixed" /></td>
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<tr>
<td>CONF-9718</td>
<td>DWR debug mode is enabled</td>
<td><img src="icon" alt="Resolved" /> <img src="icon" alt="Fixed" /></td>
<td><img src="icon" alt="Resolved" /> <img src="icon" alt="Fixed" /></td>
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<tr>
<td>CONF-9714</td>
<td><code>!! wiki notation doesn't seem to work for attached bmps in 2.6</code></td>
<td><img src="icon" alt="Resolved" /> <img src="icon" alt="Fixed" /></td>
<td><img src="icon" alt="Resolved" /> <img src="icon" alt="Fixed" /></td>
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<tr>
<td>CONF-9704</td>
<td>Security Issue: XSS in wiki exception error page</td>
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<td><img src="icon" alt="Resolved" /> <img src="icon" alt="Fixed" /></td>
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<tr>
<td>CONF-9700</td>
<td>Plugin repository not available on websphere 5.1.10</td>
<td>Resolved</td>
<td>Fixed</td>
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<tr>
<td>CONF-9686</td>
<td>Mail is not send by confluence for page updates</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-9671</td>
<td>Duplicate javamail / mail JARs in different version</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9667</td>
<td>Anonymous comments display user image of previous non-anonymous commenter</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9662</td>
<td>Migrating attachments from file system to database presents a javascript error: response has no properties</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9622</td>
<td>Newly created spaces appear to have been created by &quot;Anonymous&quot;</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9590</td>
<td>ConfluenceEntityObject.log is not static?</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9568</td>
<td>NullPointerException occuring in DefaultReferralManager</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9565</td>
<td>NullPointerException occuring in StyleSheetAction</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9560</td>
<td>Cross-site scripting vulnerability in 500page.jsp</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9536</td>
<td>Selecting &quot;site default&quot; as preferred language results in alternating behavior</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9502</td>
<td>Explain inclusion/exclusion of wiki markup (formatting, images, links) in excerpt and excerpt-include macros</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9497</td>
<td>Notifications for pages whose titles contain special characters have broken &quot;Add Comment&quot; links.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9489</td>
<td>The Excerpt Macro no longer works in comments</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9477</td>
<td>Userlister macro &quot;:groups=&quot; option should not display all users when incorrectly specified or no group exists, and should accept &quot;:group=&quot; parameter</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9456</td>
<td>XSS Bug in printable link display</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9454</td>
<td>Pages created with restrictions show as created by Anonymous</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9436</td>
<td>NPE adding page with metadata macro on CAC</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9431</td>
<td>Bandana cache not flushed when site backup restored</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9392</td>
<td>StackOverflowError in ConfluenceLinkResolver.extractLinkTextList</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9330</td>
<td>Display the Server ID string in the Setup Wizard</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9209</td>
<td>XSS in image wiki markup</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9164</td>
<td>Clean up poorly formatted (bad) properties in ConfluenceActionSupport.properties</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9151</td>
<td>Excerpt macro now rendered with HTML paragraph tag</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9099</td>
<td>the 'Insert Table' popup is full-screen wide</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-9076</td>
<td>Underlining mnemonic missing from &quot;Edit&quot; and &quot;View&quot; tabs on pages using default theme</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Confluence 2.6.1 Upgrade Guide

9 November 2007

Atlassian is proud to announce the release of Confluence 2.6.1. This is a highly recommended upgrade from 2.6, because it fixes some security flaws which may affect Confluence instances in a public environment. We will release more details of the security fixes within a few days, giving our customers a chance to upgrade before the details are made public. This point release also includes more than 40 other fixes and improvements.

We're especially glad that anonymous comments will no longer show the profile picture of the previous commenter, and newly-created spaces no longer seem to have been created by an anonymous user. The {excerpt} and {excerpt-include} macros now behave better. And we've fixed some issues with internationalisation.

Upgrade Procedure

If you are already running a version of Confluence, please follow these instructions to upgrade to the latest version:

1. Before you upgrade, we strongly recommend that you back up your confuence home directory and database.

2. If your version of Confluence is earlier than 2.6.0, read the release notes and upgrade guides for all releases between your version and the latest version. In particular:
   - If you are upgrading from 2.1 or earlier, please read the 2.2 release notes.
   - If you are upgrading from a version earlier than 2.6.0, please read the 2.6 upgrade notes.

3. Download the latest version of Confluence.

4. Follow the instructions in the Upgrade Guide.

Confluence 2.6 Release Notes

The Atlassian Confluence team is delighted to present Confluence 2.6.
Confluence 2.6 brings many popular features which save you time and improve the wiki's usability. Upgrading to Confluence 2.6 is free for all customers with active Confluence software maintenance as at 27th September 2007.

A new theme brings a fresh, clean look and feel. This is for our customers who have asked for a friendlier interface and improved readability. We’ve included more social networking features, to enhance the sense of community in your wiki. For example, author photos are now shown in comments and in the ‘Recent Updates’ on the Dashboard. And the Social Bookmarking plugin is now shipped with Confluence, allowing you to share bookmarks with your team.

Other popular new features include default content for spaces, labels on templates, the ability to backdate or rename news items (blog posts), official MySQL 5.0 support and PDF export of images.

- Many thanks for your issues and votes. They help us keep improving our products.
- We’ve highlighted the main features of this release below.
- Attached is a full list of issues resolved in 2.6.

<table>
<thead>
<tr>
<th>Upgrading to Confluence 2.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Upgrading Confluence should be fairly straightforward. Please refer to the upgrade instructions and notes. We strongly recommend that you back up your confluence.home directory and database before upgrading!</td>
</tr>
<tr>
<td>• All draft pages will be destroyed during the upgrade process. Confluence administrators should warn users of the Confluence site that drafts will not survive the upgrade.</td>
</tr>
<tr>
<td>• If you are using any third-party plugins, please test them thoroughly before rolling 2.6 into production.</td>
</tr>
</tbody>
</table>

Responding to your feedback:
🌟 5 new feature requests implemented
🌟 275 votes satisfied

Highlights of this release:
- Fresh look for the Default theme
- Personalised comments and Dashboard
- Space description on Dashboard
- Labels on templates
- Default content for space home pages
- Social Bookmarking plugin now bundled with Confluence
- Back-dating and renaming news items
- Plus over 90 other fixes and improvements
- Special thanks

Highlights of Confluence 2.6

 важная информация

 Fresh look for the Default theme
- Default font now Arial instead of Verdana.
- Fresh, clean look and feel - these release notes are an example of the new style.
- If you prefer the original Confluence look and feel, select the Confluence Classic Theme when creating a space.
- Improved layouts for email and RSS feeds, helping you to skim-read and classify information quickly.
Personalised comments and Dashboard

- In the new themes (Confluence Default and Clickr), comments now include the user's profile picture. (See screenshot above.)
- 'Recently Updated' section on Dashboard includes profile picture and a summary of the change.

Space description on Dashboard

- List of spaces on the Dashboard now includes a short description of the space.
Labels on templates

- You can include labels when adding a page template.
- New pages based on the template will automatically include the labels.
- Read the documentation.

Default content for space home pages

- Confluence site administrators can define default content for a space.
- Home page for newly-added spaces will include the default content.
- Read the documentation.
Social Bookmarking plugin now bundled with Confluence

- Use Confluence to share bookmarks with your team.
- Plugin will be enabled by default.
- You can create a bookmark for any space in which you have 'create page' permission.
- To view your bookmarks, go to the 'Bookmarks' tab under 'Browse Space'.
- Drag the bookmarklet from the 'Bookmarks' tab onto your browser toolbar to create bookmarks any time.
- Use the bookmarks macro to display a list of bookmarks anywhere in Confluence.
- Subscribe to an RSS feed for your bookmarks.
- Read the documentation.
**Back-dating and renaming news items**

- Rename a news item at any time.
- When creating a news item, you can now set the posting date to earlier than today.
- Backdating is also supported by the RPC interface - useful for migrating blog posts from other systems.

![You can now backdate a news item](image)

**Plus over 90 other fixes and improvements**

- MySQL 5.0 is officially supported, when used with Confluence 2.5 and above.
- Images generated by macro plugins will now export to PDF, .doc and .html formats.
- For plugin developers, the Joda-time library has been upgraded from 0.98 to 1.4 in Confluence 2.6. Plugins that use the date formatting or parsing functionality of Joda-time will need to be recompiled to work with Confluence 2.6.
- Administrators can configure a non-standard port for the Confluence outgoing mail server. The host address can now be specified as hostname:port.
- Improved user migration when integrating with LDAP: If you have existing Confluence users with the same usernames as LDAP users, you can now avoid duplicate users by configuring the LDAP repository before running the migration. The migration will then ignore users who have the same username as an LDAP user. Read the documentation.
- And more.

**Special thanks**

We'd like to thank some of our valued community members whose contributions to the open source plugin library have made this version of Confluence even stronger:
The Confluence 2.6 team

Development
Paul Curren
Tom Davies
Matthew Jensen
Anatoli Kazatchkov
Samuel Le Berrigaud
David Loeng
Charles Miller
Christopher Owen
Agnes Ro
Matt Ryall
Don Willis

UI
Jason Taylor
Stephen Russell

Technical Writing
Rosie Jameson
Sarah Maddox

Oversight & Management
Mike Cannon-Brookes
Scott Farquhar
Soren Harner
Per Fragemann

Confluence 2.6 Upgrade Guide

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Other popular new features include default content for spaces, labels on templates, the ability to backdate or rename news items (blog posts), official MySQL 5.0 support and PDF export of images.

Upgrade Notes

Draft Pages
All draft pages will be discarded during the upgrade process. Confluence administrators should warn users of the Confluence site that drafts will not survive the upgrade.

Plugins
If you are using any third-party plugins, please test them thoroughly before rolling 2.6 into production.

For plugin developers: the Joda-time library has been upgraded from 0.98 to 1.4 in Confluence 2.6. Plugins that use the date formatting or parsing functionality of Joda-time will need to be recompiled to work with Confluence 2.6.

Custom Themes
Custom Confluence 2.5.x themes are expected to be compatible with 2.6 without authors needing to make any change to their existing themes. This is because Confluence will, by default, include all Confluence 2.5.x specific styles automatically. But if you would like to upgrade your theme to use the latest Confluence 2.6 style and typography, you will need to update the way you include stylesheets in your theme. You can read full instructions here.

Custom Page Layout

1. If a space uses a custom decorator page layout, the new Confluence 2.6 decorator is not applied. This may cause GUI oddities, such as:
   - On a page, the View, Edit, Info and Attachments tabs are shown as a vertical bulleted list instead of tabs.
   - Comments do not show properly.
   **Fix:** Apply the Default Page Layout, then re-insert the custom code.

2. In addition, if you are using pagetree navigation to form a table of contents on the left, you may find that your wiki text becomes italic after upgrading to Confluence 2.6.
   - **Cause:** To create the left-hand panel, you have probably inserted a chunk of HTML/CSS in the space's page layout. The chunk of code may use a <blockquote> element to align the body of the page and draw a blue line on its left. Confluence
2.6 stylesheets apply the italic style to blockquotes.

- Fix: Use a new format for your left-hand panel. One possible example is given [here](#).

**Steps in detail:**

1. Go to the Space Admin screen and click 'Edit' to view your customised Page Layout.
2. Copy the customised code.
3. Cancel the edit.
4. Click 'Reset Default' to apply the new Confluence 2.6 default page layout.
5. If you are using the pagetree navigation panel, edit your customised code as described above.
6. On the Space Admin screen, click 'Create Custom' to create a custom page layout.
7. Reinsert your customised code and click 'Save'.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. We strongly recommend that you backup your `confluence.home` directory and database before upgrading!

You can get the latest version of Confluence [here](#).

If you are upgrading from Confluence 2.2.x or a later version, you can find instructions [here](#).

If you are upgrading directly from 2.1 or earlier, you should also read the [2.2 Release Notes](#) for warnings about the 2.1 -> 2.2 upgrade.

**Issues resolved in Confluence 2.6**

Below is the full list of issues resolved by Confluence 2.6. You can read the release notes [here](#).

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; "confluence:4557196"

<table>
<thead>
<tr>
<th>JIRA Issues (176 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>CONF-1576</td>
</tr>
<tr>
<td>CONF-1580</td>
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<tr>
<td>CONF-1711</td>
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<tr>
<td>CONF-1728</td>
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<td>CONF-2162</td>
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<tr>
<td>CONF-2661</td>
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<tr>
<td>CONF-3050</td>
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<tr>
<td>CONF-3355</td>
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<tr>
<td>CONF-3373</td>
</tr>
<tr>
<td>CONF-4186</td>
</tr>
<tr>
<td>CONF-4419</td>
</tr>
<tr>
<td>CONF-4567</td>
</tr>
<tr>
<td>CONF-4739</td>
</tr>
<tr>
<td>CONF-4743</td>
</tr>
</tbody>
</table>

DataIntegrityViolationException on MySQL 5.0 during Confluence configuration at the admin
<table>
<thead>
<tr>
<th>Issue Key</th>
<th>Description</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-4755</td>
<td>Account creation step</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4964</td>
<td>Improve consistency of spacing of lists and paragraphs</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5453</td>
<td>Space with no administration rights won’t allow addition of user/group</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5608</td>
<td>Add default label(s) to template creation</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5849</td>
<td>PDF export does not honor image width property</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5954</td>
<td>ConfluenceSoapServiceImpl.changeMyPassword() incorrectly delegates to SoapServiceDelegator.changeUserPassword</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6049</td>
<td>Export of Documentation Space to PDF and XML restoration are broken</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6284</td>
<td>Pages served over HTTPS that embed Flash movies display a security warning on IE</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6361</td>
<td>Use relative font sizes for page text</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6528</td>
<td>Images with explicit height and width of 0 are showing up in PDF exports</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6544</td>
<td>Images exported into a PDF file are not in a high resolution</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6587</td>
<td>Enable browser font resizing</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6606</td>
<td>Images created by Gallery Macro are not correctly created into PDF-exports</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6738</td>
<td>Long words fail to wrap in PDF exports</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6829</td>
<td>Allow sales links to remain localized even if user switches language</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6951</td>
<td>Second access to same attachment stored in database is not found</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6966</td>
<td>Add ability to disable/customize external link icon.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6987</td>
<td>Simplify Rich Text Editor localisation</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7399</td>
<td>Conflicting messages in cac and confluence internal documentation</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7414</td>
<td>Officially support mySQL 5.0</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7529</td>
<td>Move page operation should not add space keys to links inside noformat or code blocks</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7643</td>
<td>Searching for pages with a certain label in ONE space returns the pages related to the label in ALL spaces (when clicking on “Next&gt;&gt;” link on first result page)</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7739</td>
<td>Some content migrated from 2.0 to 2.3 fails to render (due to: java.lang.String java.lang.ClassCastException: java.lang.String)</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7857</td>
<td>Authenticating LDAP users doesn’t use the userSearchFilter for its test search</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7863</td>
<td>Blog-posts macro does not work from an included page macro</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7864</td>
<td>Remove trailing and prefacing empty character in SPACE name</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7875</td>
<td>Flowchart or graphviz macro images are not visible in HTML export space</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>CONF-7946</td>
<td>Querying Bandana Context during Restore from Backup returns null</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7970</td>
<td>Labels that are no longer associated with any content should not be displayed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7985</td>
<td>Rich Text Editor - Improper handling of Line Feed in {code} parts</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7987</td>
<td>Daily notification mail contains unsubstituted term &quot;${baseUrl} &quot;</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7997</td>
<td>The code issue still occurs.</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7998</td>
<td>Code macro fails to hide brackets</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8133</td>
<td>Upgrade to Tomcat 5.5.23 in standalone</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8152</td>
<td>Link to results in other spaces given when searching all spaces</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8163</td>
<td>Space creation broken when running Confluence in Shared Mode and not having space groups</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8170</td>
<td>A link within a comment breaks when the linked page is renamed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8203</td>
<td>Renderer javadoc wrong</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8249</td>
<td>Rename &quot;Maximum Attachments per Form&quot; setting to &quot;... per Upload&quot;</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8297</td>
<td>Attachments macro doesn't list previous versions of attachments though &quot;old&quot; property is set to true</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8339</td>
<td>Image and Link editing in Rich Text is not fully translated when Foreign Language pack is applied.</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8343</td>
<td>Poor quality of Thumbnails</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8348</td>
<td>Confusion regarding enabling &quot;External User Management&quot; option in General Configuration menu when integrating with LDAP</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8392</td>
<td>Sort favourite spaces alphabetically in search drop-down</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8397</td>
<td>Bundle Social Bookmarking 1.0 plugin</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8402</td>
<td>README.txt contains out of date information about support</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8407</td>
<td>&quot;Restore backup&quot; does not detect invalid ZIP files, exceptions are rendered</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8417</td>
<td>Missing plugin-info knocks Confluence over</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8422</td>
<td>Plugin repository exception</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8423</td>
<td>NullPointerException when editing a group from Manage Groups</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8434</td>
<td>Exporting spaces with pages containing a ContentPermission may throw an exception</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8450</td>
<td>On the user management page, if you click &quot;Search&quot; without entering results you get a java exception</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8451</td>
<td>Duplicate javamail / mail JARs</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Ticket</td>
<td>Description</td>
<td>Status</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>CONF-8454</td>
<td>Hyperlinks containing round brackets are broken</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8459</td>
<td>Export Layouts don't work for Spaces, only for Site</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8468</td>
<td>Members of groups in Group Management are printed in ugly technical way</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8489</td>
<td>Dynamic Tasklist does not work with a &quot;-&quot; sign in the Title of the Tasklist</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8491</td>
<td>A small typo on the mailto link on the Administration view user profile.</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8503</td>
<td>Upgrade joda-time dependency from version 0.98 to version 1.4</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8506</td>
<td>Preformatted text from the Rich Text Editor removes link properties</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8523</td>
<td>Edit Space Permissions failure in IE7 (works in FireFox 2.0.0.3)</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8533</td>
<td>Rich-Text-Editor failed to load for some users</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8543</td>
<td>Junit macro broken</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8544</td>
<td>Underscores used to work in template values but now don't</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8554</td>
<td>Misleading error message when trying to edit a nonexisting users group (via direct URL-access)</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8573</td>
<td>No warning of page currently being edited in Confluence Clustered Environment</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8580</td>
<td>Indexing unprintable/encrypted PDFs fails</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8586</td>
<td>Creating a page on an not authorized space</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8593</td>
<td>DefaultBreadcrumbsManager generates invalid HTML</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8600</td>
<td>Exporting a Space sometimes fails, throwing a Nullpointer-Exception</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8608</td>
<td>Improve Indexing Error Handling</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8623</td>
<td>Improve and speed up plugin resource loading</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8630</td>
<td>errors.jsp should return HTTP 500 Server Error instead of HTTP 200 OK when errors are present</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8631</td>
<td>Exports should be done asynchronously, not to give the impression that Confluence has hung</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8634</td>
<td>When 'AND' is used to search, the label 'and' is matched</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8644</td>
<td>It is not possible to globally disable mail archiving any more (Regression)</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8657</td>
<td>Rich Text Editor broken with IE6 and French language pack</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8658</td>
<td>In rare cases new users don't get added to the proper group and therefore can't use Confluence</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8665</td>
<td>exporting a space to XML incorrectly includes comments, even when 'Include comments' is</td>
<td>Resolved Fixed</td>
<td></td>
</tr>
<tr>
<td>Issue ID</td>
<td>Description</td>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>CONF-8682</td>
<td>&quot;Not Permitted&quot; error when I try to use the time sheet template</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8690</td>
<td>REGRESSION - Copy Page not permitted (extranet)</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8742</td>
<td>Hyperlinks do not wrap</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>CONF-8746</td>
<td>Make threaded comments the default for new installations</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8754</td>
<td>Insert Link Popup Page Icon links are incorrect</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>CONF-8758</td>
<td>New theme does not have permalink for comments</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8762</td>
<td>Multithreaded access to HashMap, can cause infinite loop</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8767</td>
<td>The create page templates page does not display action errors</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8770</td>
<td>Email address exposure - email hiding option is ignored in user lookup</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8771</td>
<td>View template bugs: Labels are not displayed, content is (wrongly) aligned to the right</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8786</td>
<td>confluence-administrators no longer fits into its cell in Global Permissions</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8787</td>
<td>Clickr theme's fonts get overridden by new stylesheet in wiki content and RTE</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8791</td>
<td>Set-up wizard theme broken</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>CONF-8802</td>
<td>New quoted typography doesn't un-italicise &amp;em; markup</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8804</td>
<td>Typography Fixes</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>CONF-8813</td>
<td>New theme breaks Calendar plugin completely</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8814</td>
<td>Foldernav styles have disappeared in new stylesheet</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8815</td>
<td>Tabnav ID appears multiple times in markup; should be a class</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8827</td>
<td>Viewing a historical version of a page has weird note styles at the top</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8831</td>
<td>Rich text editor 'Insert Link' button triggers pop-up blocker</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8854</td>
<td>Modifying the title of page removes the page formatting of pages linking to it</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8855</td>
<td>Page title length is not being validated, leading to errorpage for titles longer than 255 characters</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8856</td>
<td>Code macro looks bad in firefox on linux</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8857</td>
<td>Comment UI (clickr theme) - blue box in the left top corner of comment editing panel</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8858</td>
<td>Incoming Links to Blog Posts broken</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>CONF-8869</td>
<td>JavaScript error occurs when editing a page without having permission to restrict it</td>
<td>Resolved</td>
<td></td>
</tr>
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</table>

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<table>
<thead>
<tr>
<th>JIRA Key</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-8904</td>
<td>Footer broken in Clickr theme on extranet</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8906</td>
<td>Merge Charles' 2.5.5 branch commits into trunk</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8909</td>
<td>'Preview End' box doesn't join up with sides of preview box on Safari</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-8912</td>
<td>Panel macro shows last line grey on EAC</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-8917</td>
<td>XSS vulnerability: space name and key not validated nor escaped</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8944</td>
<td>Profile settings are lost when using Crowd with Confluence</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-8950</td>
<td>XSS vulnerability in app/spaces/listattachmentforspace.action</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-8956</td>
<td>stored XSS vulnerability in app/themes/leftnavigation/configuretheme.action</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8962</td>
<td>Stylesheet not loading on setup</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8978</td>
<td>Vulnerability against DoS attack via labels</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8979</td>
<td>Vulnerability against DoS attack at permission setting</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8980</td>
<td>XSS vulnerability at &quot;Edit Space Permissions&quot;</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8986</td>
<td>Tab spacing is wrong on Classic and Left Navigation theme</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8987</td>
<td>Tabs are missing using the Theme Builder theme</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8988</td>
<td>&quot;Robert Paulsen&quot; misspelled in notation guide</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8993</td>
<td>Reflected XSS Vulnerability in the Feed Builder</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-8994</td>
<td>Change renewal hyperlink to use new website redirects</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-9000</td>
<td>OutOfMemoryError's during indexing</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-9007</td>
<td>Moving an attachment does not update the respective links</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-9024</td>
<td>Update professional German and French translations in Confluence</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-9054</td>
<td>NPE thrown when attempting to export space as PDF</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-9060</td>
<td>Missing text in breadcrumbs when viewing changes since last login</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-9067</td>
<td>Division by zero in SnipSnapImporter</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-9111</td>
<td>Add hints encouraging users to provide a profile picture</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-9117</td>
<td>Confluence API supports adding user with null password, but users will null passwords produce NullPointerExce...</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-9124</td>
<td>Documentation update: MySQL 5.0 is supported when used with Confluence 2.5 and above</td>
<td>Resolved</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Resolution</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>CONF-9167</td>
<td>the '{code}' and '{noformat}' macros truncate long lines of code</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-9174</td>
<td>Space and global permissions show $user.fullName for LDAP users which have been deactivated</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9179</td>
<td>Left nav theme icon missing in select theme page</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9180</td>
<td>Can't comment in Clickr theme</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9187</td>
<td>Note joda-time incompatibility in 2.6 release notes</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-9188</td>
<td>Remove page removal not permitted text from edit page</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9195</td>
<td>Confluence 2.5.6 ldap configuration failing on osuser2atluser.jsp migration</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9201</td>
<td>Redundant information in new RSS feed format</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9214</td>
<td>News posts are always shown as having been edited</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9215</td>
<td>Internet Explorer issues specific to 2.6</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9218</td>
<td>Themes can override admin layout</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9231</td>
<td>Entering invalid page labels hides label edit section</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9237</td>
<td>AuthenticatedUserThreadLocal does not clear on Logut Action</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9249</td>
<td>Duplicate dependencies in WEB-INF/lib/</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9251</td>
<td>&quot;Too many open files&quot; error during index operations</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9276</td>
<td>Recompile SocialBookmarking plugin against 2.6 final</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-9303</td>
<td>Caching is not enabled by default for the hibernate repository</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9346</td>
<td>Include parent Comment in comment notifications</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9401</td>
<td>Weird string appears above the edit box when <em>editing</em> an existing comment</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9434</td>
<td>Enabling Caching for Hibernate Repository causes net.sf.hibernate.LazyInitializationException error</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9450</td>
<td>Don't put the &quot;Cancel&quot; button so close to the &quot;Save&quot; button when editing pages</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9452</td>
<td>Accessing an invalid attachment download URL causes exception</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9465</td>
<td>Confluence jar's pom contains unsubstituted property for artifactid</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9475</td>
<td>Make simple modifications to default layout to allow page-by-page customization of the UI</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9509</td>
<td>java.lang.RuntimeException: Unable to delete working directory</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9521</td>
<td>TinyMceServlet has a memory leak</td>
<td>Fixed</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td>CONF-9555</td>
<td>Improve macros.vm backwards compatibility</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-9589</td>
<td>Link to an attachment combined with an image renders incorrectly</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-9643</td>
<td>Canceling of &quot;Remove Page&quot; should take user back to where he/she came from</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-9810</td>
<td>Space is left with no &quot;admin&quot; and users being locked-out of administering a space</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-9819</td>
<td>In edit mode (RTE) code style text shows with variable font instead of fixed font</td>
<td>Closed</td>
</tr>
</tbody>
</table>

Release Notes 1.0

Confluence 1.0

Ring the bells. Break out the champagne. Paint the town red. Dance naked in the streets. Or at least that's what we'll be up to tonight, because we're finally releasing Confluence 1.0!

Confluence 1.0 represents the hard work and dedication of quite a few people. Obviously there's the development team: Ara, Armond, Charles, Dave, Mike and Ross, but there's also the JIRA team and the rest of the guys at Atlassian who have offered support, advice, and loud music. A huge thanks also goes out to everyone involved in the beta-testing program. Your real-world use of Confluence gave us invaluable suggestions and bug-reports, and we apologise for the times we've messed up your databases on the way.

We're pretty proud of all the cool stuff we've managed to fit into Confluence already, and we're looking forward to making it even better in forthcoming versions (Remember, a license entitles you to a year of upgrades).

The only sad moment for the day is that for the 1.0 release, we had to lose emoticons. The regular expression responsible for turning into a smiley-face was causing pages to take ten seconds to render. Commenting out the filter lowers the rendering time of even highly complex pages to a few hundred milliseconds. We promise, the smileys will return in a future version, faster and stronger than ever! Or if you don't mind the cost, you can re-enable them by uncommenting the emoticonFilter line in wikiSubsystemContext.xml.

Users of late Release Candidate builds will notice a substantial improvement in performance as a result.

Contents

1. New Features
2. Notable Bug-fixes since RC6
3. Outstanding Issues
4. Upgrading from RC6
5. Notable Features from Previous Releases

See also: Issues Resolved for 1.0

New Features

For once, we managed to resist the urge to add any new features this week, since we were busy cleaning everything up for today's release.

Notable Bug-fixes

- We have verified that you can now use Confluence's internal datasources with MySQL (for users of RC5 or earlier, see the upgrade section below for information on how to change to the production-ready datasources).
- Fixed the database transaction problems that were causing problems with user/group management, page renaming and commenting.
- [~user] links no longer place the context path in the link twice.
- Fixed a rendering regression that caused text to be spaced incorrectly within panels.
- The 404 error page no longer causes a NullPointerException.
- The recent comments RSS feed returns a valid RSS version number.
- The 'diff' link now works in HTML edit notification emails when Confluence is installed in a non-root context.

Outstanding Issues

- The Emoticon filter is currently shipped disabled, because it was causing page-load times to go through the roof CONF-963.
- You can not complete the Confluence setup process if you have external user-management enabled. Set up Confluence before setting up external user-management. CONF-950.
- It is possible to make a "create page" link to a page with invalid characters in its title (which will thus fail to be created) CONF-810.
- If you are using PostgreSQL, please make sure you use the JDBC3 version of the Postgres JDBC drivers. Some users have encountered problems with the JDBC2 drivers.
- Links to images that are page-attachments are broken in email notifications CONF-878.
- There continue to be problems with high-bit characters in pages when Confluence is deployed on Resin CONF-569.
Upgrading from RC6

We haven't made any changes to the database schema, so you should just be able to install the new version of Confluence, point it at your existing confluenceHome directory, and carry on as before. I would, however, recommend making a backup before you upgrade, just in case.

If you:

1. have not gone through the Confluence database setup steps since Confluence 1.0RC5
2. are running the embedded HSQL database, or are connecting to a database directly (not through an Application Server Datasource)

Then you will need to add a few connection pooling properties to confluence.cfg.xml file in your confluenceHome directory. Edit the file, and insert the following somewhere in the <Properties> section:

```
<property name="hibernate.c3p0.max_statements">0</property>
<property name="hibernate.c3p0.min_size">0</property>
<property name="hibernate.c3p0.timeout">30</property>
<property name="hibernate.c3p0.max_size">4</property>
```

This will enable c3p0 connection-pooling, which is far more reliable than the default pooling that we were using previously.

Notable Features from Previous Releases

Here’s a quick retrospective of some of the cool things we have added to Confluence during the beta- and RC- releases. It is by no means comprehensive, but you can follow the links to the original release notes for an idea of just how busy we’ve been in recent months.

**Confluence 1.0a2 (November 6, 2003)**

- Shortcut links allow you to create special URL Shortcuts to point to existing web services: i.e. CONF-195
- Undefined and Orphaned Pages reports
- Revert page to previous version

**Confluence 1.0a3 (December 5, 2003)**

- Comments for pages
- Links in exported PDFs are internal links if the destination page has also been exported, external links otherwise
- Personal History popup keeps track of the pages you have visited
- Page Information screen lists all the incoming and outgoing links on a page
- Printable version of every page

**Confluence 1.0b1 (December 19, 2003)**

- Pages that have changed since your last login are highlighted in the ‘recent changes’ list
- Pages can be organised in parent-child hierarchies, allowing for clearer organisation of pages within a space
- Page renaming refactors links to the page, wherever they may appear in the site
- Search works across all content in the site, including comments, space descriptions and user information
- A new permission was added for creating comments
- {color} macro for coloured text
- Parameters allowed on image links

**Confluence 1.0b3 (January 19, 2004)**

- Beta2 was released a few days earlier, but we’d prefer not to talk about it.
- Searching works across PDF, HTML, XML and Word attachments
- The colour-scheme and page decorators can be configured across the site
- The site homepage is configurable
- Emoticons
- New macros: (include), (include-html), (rss), (search), (jiraissues), (junitreport)
- User profiles can be longer than 255 characters
- Much better handling of anonymous contributions

**Confluence 1.0b4 (January 26, 2004)**

- FatCow, our acceptance-testing framework was introduced to the world
- Confluence now supports chronologically organised content: blog posts
- You can now move pages between spaces, and have their links updated accordingly
- en — and em — dashes are supported
- You can link directly to attachments
- New macros: {blog-posts}, {anchor}, and an improved {rss} macro

**Confluence 1.0rc1 (February 6, 2004)**

- XML-RPC and SOAP APIs allow you to programatically interact with Confluence
- Trackback allows Confluence to notify other sites of links, and be notified by them
- User notifications on page and space editing were overhauled
- Look and Feel configuration was enabled individually for each space
- Linking to space descriptions and user profile pages directly is now possible: Confluence User Community, Mike Cannon-Brookes
History popup tracks more than just pages

**Confluence 1.0rc2 (February 13, 2004)**
- Improvements to the remote API
- RSS and HTML macros now use HTTP proxies if configured to

**Confluence 1.0rc5 (February 20, 2004)**
- RC3, RC4 and RC5 were released within days of each other, in a flurry of mad bug-fixing
- Page templates can now be filled in in-line
- If a page is moved or renamed and you go to the URL it used to inhabit, Confluence will try to direct you to its new location
- Exported PDFs now incorporate the site's stylesheet

**Confluence 1.0rc6 (March 5, 2004)**
- You can prevent people signing up, for private Confluence installations
- You can configure Confluence to mask user email addresses
- User management can now be shared with JIRA
- Page templates can now contain drop-down menus and text areas
- New macro: `{html}`

**Demonstration Site**

Atlassian have set up a demonstration space called 'the Confluence Test Space' so that you can try out Confluence for yourself.

Click the link above to go to the demo space

The demonstration space has been configured so that anyone can create or edit pages within it. When using it, you should keep the following in mind:

- This server may not be running exactly the same version of Confluence as is available for purchase. While we try to keep the two in sync, there may be differences between the demo site and the downloadable version of Confluence. The version that the site is running can be found at the bottom of each page.
- Because the space is open for anyone to edit, Atlassian cannot be responsible for the content on it. Do not rely on anything you read in the test space.
- The contents of the test space may be edited or deleted at any time. Periodically, Atlassian may restore the test space from backup, deleting everything that has been added to it by visitors.
- For a full demonstration of Confluence, including its administrative features, you should download an evaluation instead.
- If you have any questions, contact us and we'll be happy to answer them.

Want to try Confluence yourself?
Experiment with Confluence in our demonstration space >>

**Issues Resolved for 1.0**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (36 issues)</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type Key</td>
<td>Summary</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-797</td>
<td>Provide documentation about shared user database (Jira+Confluence)</td>
<td></td>
</tr>
<tr>
<td>CONF-219</td>
<td>Import from other wiki's</td>
<td></td>
</tr>
<tr>
<td>CONF-1060</td>
<td>PDF Indexing</td>
<td></td>
</tr>
<tr>
<td>CONF-764</td>
<td>Create jspwiki importer</td>
<td></td>
</tr>
<tr>
<td>CONF-936</td>
<td>Page save and preview is slow for large pages with lots of markup</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-944</td>
<td>Linking Images (thumbnailsing / popups)</td>
<td></td>
</tr>
<tr>
<td>CONF-916</td>
<td>Joined Numbered Bullet Points</td>
<td></td>
</tr>
<tr>
<td>Conf #</td>
<td>Description</td>
<td>Status</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>CONF-551</td>
<td>export page is unusable for large spaces</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-876</td>
<td>Possibility to hide email addresses</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-913</td>
<td>Blog post results in the search page don't have edit and remove icons next to them</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-943</td>
<td>Can not delete users under Postgres</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-833</td>
<td>rss feed cannot read a confluence feed</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-941</td>
<td>Access Administration.action results in a Page Not Found</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-883</td>
<td>Security Management vs Group confluence-users</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-937</td>
<td>User to group assignments don't stick</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-904</td>
<td>java.lang.RuntimeException: Caught an Ognl exception while getting property space</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-933</td>
<td>Delegating user management to JIRA causes Exception</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-919</td>
<td>commentrss.action returning rss 0.92</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1008</td>
<td>Cannot add page comments</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1057</td>
<td>Daily backup doesn't seem to do anything</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-896</td>
<td>Batch update row count wrong: 0</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-806</td>
<td>Email report shows incorrect # of comments on a topic</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-946</td>
<td>NPE trying to rename the space home page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-940</td>
<td>Page edited email does not use full URL for 'View Changes' link</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-931</td>
<td>apostrophe followed by closing parenthesis rendered as wink emoticon</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-932</td>
<td>exporting table to PDF fails</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-920</td>
<td>Paragrph spacing issues, Panel and after headings</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-923</td>
<td>can't assign users to groups</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-924</td>
<td>[~username] links are wrong if Confluence is run through forwarding</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1161</td>
<td>Must remove correct email adress from profile to prevent spam</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-917</td>
<td>Tables not getting formatted correctly within the lists!</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-918</td>
<td>Sticky &quot;Add Comment&quot; Textfield</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-643</td>
<td>soap wsdl is broken ( and you need to add a remote api component )</td>
<td>Closed</td>
</tr>
</tbody>
</table>
Release Notes 1.0.1

Confluence 1.0.1

Over the course of the last month of supporting Confluence 1.0, there are a number of patches that we have been distributing to fix specific problems our users have encountered. Confluence 1.0.1 is a maintenance release into which all these patches have been integrated.

Who Should Upgrade?

All the issues that were resolved for this release are listed below. We have not snuck in any other changes: what you see here in the release notes is precisely what you will get. If you find something on the list that directly affects you, or that you feel justifies the effort of an upgrade, then do so. Otherwise, feel free to stick with 1.0.

Upgrade Procedure

If You Have Customised osuser.xml

If you have customised Confluence's user-management, for example to integrate it with LDAP or JIRA, you will have to integrate your changes to account for the caching OSUser providers we introduced in Confluence 1.0.1. See this document for more details: [Confluence Caching OSUser Provider]. Updated instructions for integrating with JIRA user management are here: Delegate user management to use JIRA logins

Otherwise

To avoid the possibility of data-loss, you should back up your ConfluenceHome directory and your database before upgrading, and perform a full backup from within the application.

Changes in 1.0.1

See also Issues Resolved for 1.0.1

Direct Attachment Links

In response to a loud demand from users, links to attachments using the [attachment.jpg] syntax will download the attachment file directly, instead of linking to an anchor in the destination page.

Sybase ASE Support

Confluence 1.0.1 resolves the following problems that were causing Confluence not to work with Sybase ASE 12.5.1:

- ORDER-BY mappings failing on Sybase (CONF-1021)
- Can't add users under Sybase (CONF-1022)
- Weird datatype error under Sybase (CONF-1024)
- Sybase doesn't like complicated distinct selects (404 page fails) (CONF-1025)
- Backup import fails under Sybase (CONF-1063)

These bug-fixes may also improve Confluence's compatibility with other untested databases. They will not, however, have any effect on Confluence's operation against PostgreSQL, MySQL or HSQL.

Microsoft SQL Server Dialect in Setup Page

The Microsoft SQL Server database dialect was missing from the database setup page. It has now been added to the list. Confluence has not yet been tested on Microsoft SQL Server, and the usefulness of this option is not yet guaranteed. However, since the Sybase issues above are now resolved and SQL Server belongs to the same family as Sybase, it would be well worth a try.

JIRA User Provider Caching

Users who were linking their user management to JIRA's using the supplied provider were experiencing significant performance problems as a result. 1.0.1 introduces caching to the user provider, which should speed up these installations significantly.

Global Reports Visibility

Under Confluence 1.0, the global "undefined pages" and "orphaned pages" reports did not properly filter out pages that the user could not see. The user could not see the content of any page they did not have access to, but they could learn of the existence of (and names of) pages and spaces they were not permitted to see. This bug is fixed in 1.0.1

Locale-Independent Dates in Backup/Restore
In Confluence 1.0, dates were written into backup files using a localised representation of the month. As such, if you exported Confluence data from a server in one locale it might not import successfully into a server with a different Locale setting. Confluence 1.0.1 still recognises the 1.0 export format, but its own exports will write out dates in a locale-independent format.

As noted above, this means that data exported from Confluence 1.0.1 can not be imported successfully into Confluence 1.0.

Fix Browser Crash on Viewing Some Templates

Previously, if you created a template containing no variables, then anyone attempting to preview or use that template would have their browser hang in an infinite Javascript loop. Confluence 1.0.1 fixes this bug.

Typo Fixed on User Group Editing Page

A single-character change from "privilage" to "privilege".

Issues Resolved for 1.0.1

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: [0]; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (16 issues)</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-1007</td>
<td>Ability to specify attachment link behavior</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1065</td>
<td>Add Caching to JIRA user providers</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1020</td>
<td>Dates are localised on backup, lost on restore</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1021</td>
<td>ORDER-BY mappings failing on Sybase</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1043</td>
<td>Missing Dialect Class Name for Microsoft Sql Server</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1063</td>
<td>Backup import fails under Sybase</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1003</td>
<td>typo on edit user groups</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1028</td>
<td>JavaScript runs bananas when viewing Templates</td>
<td></td>
<td>Closed</td>
<td>Duplicate</td>
</tr>
<tr>
<td>CONF-1114</td>
<td>The emoticons don't seem to work....</td>
<td></td>
<td>Closed</td>
<td>Duplicate</td>
</tr>
<tr>
<td>CONF-1038</td>
<td>Template with no form fields can't be previewed</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1070</td>
<td>Users without permissions can see undefined pages</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1005</td>
<td>Script causing browser to hang</td>
<td></td>
<td>Closed</td>
<td>Duplicate</td>
</tr>
<tr>
<td>CONF-1055</td>
<td>&quot;Global reports&quot; visibility bug</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1024</td>
<td>Weird datatype error under Sybase</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1025</td>
<td>Sybase doesn't like complicated distinct selects</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1022</td>
<td>Can't add a user under Sybase</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
</tbody>
</table>

Release Notes 1.0.3

Confluence 1.0.3

Confluence 1.0.3 is another maintenance release, hopefully the last maintenance release we will need on the 1.0 branch before moving full steam ahead towards version 1.1. It fixes some bugs regarding the remote SOAP/XML-RPC API, the display of the 404 error page under Postgresql, and the display of the site's stylesheet under certain versions of Internet Explorer.

The Confluence development team are now working hard on 1.1, which will contain significant improvements and new features. Remember, a Confluence license entitles you to a year of upgrades, so if you buy 1.0.3 today, you'll be able to upgrade to 1.1 for no extra charge when the time comes.

See also: Issues Resolved for 1.0.3

Who should upgrade?

Confluence users should be running at least Confluence 1.0.2. Versions prior to 1.0.2 contain a bug that will cause their licenses to expire a month after the build date listed in the page footer, regardless of the true expiry date of the license. Versions 1.0.2 and later do not contain this bug. (Note: In the absence of this bug, only trial licenses ever expire. Purchased licenses for Confluence do not expire.)
All the issues that were resolved for this release are listed below. We have not snuck in any other changes: what you see here in the release notes is precisely what you will get. If you find something on the list that directly affects you, or that you feel justifies the effort of an upgrade, then do so. Otherwise, feel free to stick with 1.0.2

**Upgrade Procedure**

Confluence 1.0.3 contains no database or configuration file changes, so you should just be able to unpack it on top of your existing Confluence installation:

1. Shut down the Confluence server
2. Back up `confluence/WEB-INF/classes/confluence-init.properties`, and if you have customised it, `confluence/WEB-INF/classes/osuser.xml`
3. Unpack Confluence 1.0.3 in the same location as your existing Confluence installation
4. Restore the two files you backed up in step 1 to the 1.0.3 installation.
5. Start Confluence

To avoid the possibility of data-loss, you should back up your Confluence Home directory and your database before upgrading, and perform a full backup from within the application.

**Changes in 1.0.3**

**Global RSS Feed Fixes**

The global RSS feeds found on the Dashboard page were not being generated correctly: an extra ')' was being added to the end of links. This has been fixed in 1.0.3

**Page Not Found Fix for Postgresql**

Users running Confluence against a Postgresql database were encountering a system error whenever someone attempted to visit a page that did not exist. This has been fixed.

**Remote API Fixes**

Several outstanding issues with the remote API that were holding back the [TimTam] client have been fixed. In addition a `getVersion` method has been added to allow client authors to determine which version of Confluence a server is running, and adjust their features to match. The full description of Confluence's remote API is here: Remote API Specification

- The WSDL file now respects the server's configured base URL, so SOAP can be used on servers that are behind a proxy.
- `getPermissions` now recognises when a user is in the `confluence-administrators` super-user group.
- `storePage` handles re-parenting a page correctly
- `storePage` will now allow a page to be renamed (all links to the page are automatically redirected)

**Other Fixes**

- You can now comment on a blog post when the title contains non-US-ASCII characters
- The bug that was causing some versions of Internet Explorer 6 to not display the site's stylesheet has been fixed

**Issues Resolved for 1.0.3**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: [0]; ["confluence:4557196"]

### JIRA Issues (14 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-1123</td>
<td>Add getVersion to remote api</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1100</td>
<td>404 page dies under Postgresql</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1101</td>
<td>Global RSS feed links have extra )</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1091</td>
<td><code>storePage</code> does not handle re-parenting correctly</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-974</td>
<td>Store Page fails when page is renamed.</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1140</td>
<td>Remote API permissions not respecting &quot;superuser&quot; group</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1068</td>
<td>Can not comment on blog posts which title contain special characters</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1088</td>
<td>SOAP Service broken on confluence.at</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1186</td>
<td>Some versions of IE6 can't see the stylesheet</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1166</td>
<td>SOAP interface not using Base URL</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1083</td>
<td>Cannot Delete User from Group confluence-administrators</td>
<td></td>
<td>Closed</td>
<td>Won't Fix</td>
</tr>
</tbody>
</table>
Release Notes 1.0a2

Confluence 1.0a2

Confluence 1.0a2 was released November 6, 2003.

New Features

- Shortcut links (CONF-195 & CONF-247) - shortcut links enable you to easily make links to any 'web service' from within the syntax of a Confluence page. Simply specify your shortcut and the URL to link to (e.g. "http://www.google.com/search?q=$1") to add your own links. You could use this to link directly to JIRA installations, Google, intranets, searches or anything that has a 'URI' based interface.
- Revert page to a previous version (CONF-32) - revert to a previous version of any given page from the list of previous versions.
- Forgot password function (CONF-88) - retrieve your password if you happen to have forgotten it.

Release Notes 1.0a3

Confluence 1.0a3

Confluence 1.0a3 was released December 5, 2003.

New Features

- Completely rearchitected around the spring framework.
- Page comments (CONF-235) - users can now attach comments to a page.
- Email notification for new comments.
- Supports non-ASCII characters in page names (CONF-297).
- Improved handling of internal and external links in exported PDFs.
- Editing popup to help with inserting links (internal and external) into pages (CONF-129).
- Personal history (CONF-196) - a popup window containing your recently visited pages.
- Page information screen (CONF-270) lists all the incoming and outgoing links for a page, and all attachments.
- User profile UI has been enhanced (CONF-172).
- Dashboard and Space summary pages have had a big UI overhaul.
- Brief help on Wiki notation now available on create and edit pages. (CONF-295)
- Improved available help on various pages.
- Enhanced mail-server administration.
- All pages have a printable version accessible from the icon at the top-right of the page (CONF-338).
- HTML and text email notifications have been greatly improved and are now much more useful. Links in HTML emails work seamlessly with online Confluence version.
- Many other minor fixes, improvements and performance tweaks.

Release Notes 1.0b1

Confluence 1.0b1

Confluence 1.0b1 was released 19th December 2003.

That's right - we finally got it out the door! cheers from around the room erupt as developers across in the Atlassian offices crack open a beer.

New Features

- It's sooo much faster as we've implemented caching at multiple levels - trust me, it now flies in development. Here's hoping it flies for you too. (For those with a development bent, turn on profiling via the URL to see a beautiful profiling stack trace on stdout)
- The last login date is now tracked, pages and spaces changed since your last login are highlighted in green (as these are presumably pages you want to view), you can see a diff of the currently viewed page against the date you last logged in and there are various related reports of spaces/pages changed since your last login.
- Parent/child page hierarchies have been implemented. You can specify the parent for any pages and the ancestry is reflected in the breadcrumbs list. The full hierarchy is shown (including the current page's position) on the Page Information screen, and there is a
related macro to show the children in various different types of trees (see the Notation Guide for details)

- Search has been completely overhauled - search now works across pages, comments and space descriptions and the results now display descriptions with highlighted search terms (this is really cool!)
- Page renaming and link refactoring now works across comments, space descriptions and pages - neat!
- The Notation Guide has been significantly improved with more useful examples, a list of the available macros and a tabbed interface. Also the edit/create pages now have a 'quick notation guide' to the most commonly used operations
- There is a new 'Create Comment' permission - so that you can make spaces which are publicly viewable/commentable, but not editable.
- The UI of the 'create link' and 'external link' links within a rendered page have been improved with subtle icons
- Page comments now have a sexy icon of their own, and can be shown/hidden at will. You can also permalink to any given comment and comments are fully indexed.
- Undefined and orphaned pages reports have been tightened significantly so that they now report truly undefined/orphaned pages
- You can create a list of URLs ignored from external referrers - this is useful where your server is known by multiple IP / domain name combinations, or you want to ignore all internal referrers (Admin / General configuration)
- {color} macro to colour blocks of text
- Logging in to Confluence now takes you to your intended destination, not the Dashboard
- There is an option to choose whether the default link for a space goes to the space homepage or the space summary (people internally and externally seem to be divided about which it should go to - so you can choose for yourselves)
- You can now edit and add SMTP servers through the web interface
- The administration interface has been completely overhauled and tightened
- Added a Mail Queue administration page
- Added a View System Information page
- Added a pretty error page, and the ability to submit but reports (including exports) directly to us
- The permissions viewing and editing pages have been greatly simplified and improved across the application
- Confluence now has a licensing system, so you will need a license key to evaluate (these can be generated online as with JIRA).
- Image embedding can now include parameters (such as height, width, alignment etc) - see the Notation Guide for details.
- https:// links are now treated just like ftp:// and http:// external links
- Various rendering bugs have been fixed.
- Many other minor fixes, improvements and performance tweaks

Release Notes 1.0b2

I see dead pages!

Confluence 1.0b2 was released on Friday January 16, 2004 with a major bug in its search indexing that caused it to index pages that no longer existed. It was replaced by 1.0b3 the next Monday.

See also: Release Notes 1.0b3 and Issues Resolved for 1.0b3

Feature List

The features listed on this page refer to Confluence version 1.0 beta1.

Content Management

- Content is organised into discrete spaces in which users can create and edit pages.
- Easy-to-learn, easy-to-read but powerful notation for designing pages and linking between them, based on the popular textile markup.
- Arbitrary files can be attached to pages.
- Comments can be left on pages.
- Page templating allows rapid creation of boiler-plate pages.
- Pages can be organised into hierarchies.

Update Tracking

- Each page has a full change history, accessible as coloured diffs highlighting each change made.
- Simple Reports which pages have been updated since you last logged in.
- Email subscription informs you of pages that have been added or updated, or comments left.
- RSS feeds available for new and updated pages across the site, or in individual spaces.

Searching

- Full-text searching of all content, including pages, comments and space descriptions

Site Management

- Smart page-renaming updates links across the entire site, even in comments or space descriptions.
- Pages or spaces can be imported from plain text files, or exported to PDF or HTML.
- Simple backup and restore to XML files.
- Automatic daily backup feature.
- Reports of "orphaned" pages that exist but are not linked to, and of links that point to pages that do not yet exist.

User Management and Security

- Flexible security, from a public site, to a personal space.
- User- and group-based permissions.
Separate viewing, commenting, editing and administration permissions for each space.

Deployment and Compatibility

- Available on a wide variety of platforms, either as a stand-alone server, or as a web-archive deployable into a compatible Java application server.
- Compatible with a large number of databases

Support

- Confluence is under full-time development, with licensees entitled to a year of free updates.
- Atlassian's Legendary Service.

Release Notes 1.0b3

Confluence 1.0b3

1.0b3 was released on January 19th, 2004. It replaces the short-lived 1.0b2 release, after 1.0b2 managed to escape into the wild with a bug in the search index that made it see pages that weren't there any more. Since 1.0b2 only existed for one weekend, the release-notes for both versions have been folded into a single document.

This is a massive release. Over 90 issues (new features, improvements and bug-fixes) were resolved between beta-1 and beta-3, with even more improvements made below the issue-tracking radar.

Contents

1. Unknown macro: (link)
2. Unknown macro: (link)
3. Unknown macro: (link)
4. Unknown macro: (link)
5. Unknown macro: (link)

See also: Issues Resolved for 1.0b3

New Features

Search Attachments

Attachments are now indexed for searching just like any other content in the Confluence space. Alongside text, HTML and XML attachments, Confluence will also index Word, RTF and PDF documents.

Configurable Look and Feel

The site administrators can now customise the colour-scheme of the Confluence installation. More advanced configuration can be done by editing the site's templates through a web interface, changing the appearance of the whole site.

Site Homepage

The site administrator can now set the site homepage for users who have not logged in: choosing from either the dashboard (the default behaviour in beta-1 and before), or any of the Space homepages within the site.

Users who have logged in can choose their own site homepage in their user profile.

RSS Feed for New Comments

You can subscribe to all new comments added to a space using an RSS newsreader. (The link to the RSS feed can be found on the Space Summary page)

Emoticons

New Macros

- {include} – include the contents of one Confluence page within another
- {include-html} – include the contents of an HTML document within a Confluence page (turned off by default. See Enabling the html-include Macro for more information)
- {rss} – include an external RSS feed
- {search} – include the results of a Confluence search
- {jiraissues} – integrate Jira issue reports with your Confluence site
- {junitreport} – include JUnit test result data

Improvements

- Users' login names and full names are indexed for searching
- Users' profiles may now be longer than 255 characters, and are also indexed for searching
• Usernames are no longer case-sensitive
• Anonymous contributions are clearly labeled
• Users are warned if they are editing or commenting without having logged in
• Notification emails now link to the appropriate “diff” page, so you can quickly see what has changed
• Page diffs now highlight precisely what changed within each line: very useful when just one or two words change in a long paragraph
• Lists of child pages and links are sorted alphabetically
• Long lists of pages or search results are paginated
• Shortcut links can be given different link text in the same way as other links (e.g. [Search for Confluence on Google|confluence@google])
• Incoming links and “hot referrers” are listed in the sidebar of the page view
• Child pages are listed below the page contents in the page view

Notable Bug-fixes

• You no longer get the old page (or don’t see the comment) immediately after editing or commenting on a page CONF-453
• Persistent login cookies no longer conflict with a JIRA installation on the same server CONF-440
• Persistent login cookies no longer fail for users with certain characters in their username CONF-387
• Notification emails no longer send out garbage for anonymous changes. CONF-421
• Users who are not logged in no longer see strange table titles CONF-422
• And many more....

Outstanding Issues

• You should restart Confluence immediately after finishing the initial setup steps, to avoid data loss CONF-493
• New-lines may not be drawn if the next line starts with whitespace CONF-475
• Emoticons are rendered inside {noformat} blocks CONF-502
• If you put a {children} macro after an (include) macro, it will list the children of the included page. CONF-504

Issues Resolved for 1.0b3

Errors were reported by the JIRA trusted connection.

• APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (3 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>![icon]</td>
<td>CONF-497</td>
<td>Search includes old versions of pages</td>
<td>![icon]</td>
<td>Closed</td>
</tr>
<tr>
<td></td>
<td>![icon]</td>
<td>CONF-495</td>
<td>Problem with incoming links</td>
<td>![icon]</td>
<td>Closed</td>
</tr>
<tr>
<td></td>
<td>![icon]</td>
<td>CONF-496</td>
<td>Problem with rename</td>
<td>![icon]</td>
<td>Closed</td>
</tr>
</tbody>
</table>

Issues resolved for 1.0b2

1.0b3 was a quick bug-fix release for 1.0b2, so here are the issues resolved in 1.0b2:

Errors were reported by the JIRA trusted connection.

• APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (81 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>![icon]</td>
<td>CONF-304</td>
<td>Sitemesh/Velocity Integration</td>
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<td>Closed</td>
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<td>![icon]</td>
<td>CONF-425</td>
<td>Upgrade to CVS HEAD of XWork / WebWork 2</td>
<td>![icon]</td>
<td>Closed</td>
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<td></td>
<td>![icon]</td>
<td>CONF-429</td>
<td>Upgrade SiteMesh and use Velocity decorators</td>
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<td>Closed</td>
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<td></td>
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<td>Update confluence features list</td>
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<td>Closed</td>
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<td></td>
<td>![icon]</td>
<td>CONF-438</td>
<td>JUnit XML displaying macro</td>
<td>![icon]</td>
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<tr>
<td></td>
<td>![icon]</td>
<td>CONF-483</td>
<td>![include:page] macro</td>
<td>![icon]</td>
<td>Closed</td>
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<tr>
<td></td>
<td>![icon]</td>
<td>CONF-307</td>
<td>Ability to search attachments</td>
<td>![icon]</td>
<td>Closed</td>
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<tr>
<td></td>
<td>![icon]</td>
<td>CONF-437</td>
<td>External RSS macro</td>
<td>![icon]</td>
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<td></td>
<td>![icon]</td>
<td>CONF-456</td>
<td>Global colour-scheme configuration</td>
<td>![icon]</td>
<td>Closed</td>
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<tr>
<td></td>
<td>![icon]</td>
<td>CONF-418</td>
<td>Better handling of anonymous contributions</td>
<td>![icon]</td>
<td>Closed</td>
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<tr>
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<td>![icon]</td>
<td>CONF-173</td>
<td>Remote editable space decorators</td>
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<tr>
<td>Ticket</td>
<td>Description</td>
<td>Status</td>
<td>Resolution</td>
<td></td>
<td></td>
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<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>CONF-407</td>
<td>RSS feed for recently added comments</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-420</td>
<td>Set &quot;Site Homepage&quot;</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
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<tr>
<td>CONF-417</td>
<td>One-click bug submission</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-449</td>
<td>Macro for fetching/importing JIRA issues</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-290</td>
<td>Configurable Look &amp; Feel</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-412</td>
<td>Make usernames and user full names searchable</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-458</td>
<td>JIRA macro column selection</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-462</td>
<td>Documentation for decorator editing</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-394</td>
<td>Update links from other spaces when renaming pages</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-431</td>
<td>Per word diffing</td>
<td>Closed</td>
<td>Fixed</td>
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<td></td>
</tr>
<tr>
<td>CONF-443</td>
<td>Shortcuts should allow &quot;my link name&quot; like other links do</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-457</td>
<td>Put nice colour-picker on colour customisation screen</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-401</td>
<td>Parent child relationships should be thought about more</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-371</td>
<td>Child pages invisible by default</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-413</td>
<td>Add diff link to &quot;page edited&quot; email</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-415</td>
<td>Make diffs highlight changes within a line.</td>
<td>Closed</td>
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<td></td>
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</tr>
<tr>
<td>CONF-397</td>
<td>Fix diffs highlight changes within a line.</td>
<td>Closed</td>
<td>Duplicate</td>
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</tr>
<tr>
<td>CONF-417</td>
<td>Add emoticons to confluence</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-471</td>
<td>Pagination for long lists (search is the first!)</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-419</td>
<td>Warn user if they're commenting/editing anonymously</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-373</td>
<td>Upgrade to the Spring SessionInView filter</td>
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<td>Fixed</td>
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<tr>
<td>CONF-454</td>
<td>Improve the JUNIT macro</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-397</td>
<td>Include user in &quot;Recently Updated Pages&quot;</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-387</td>
<td>Move &quot;incoming links&quot; back to the page</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-482</td>
<td>Page templates should be editable on the web interface and saved in exports</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-408</td>
<td>Escaped characters don't work as they should</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-450</td>
<td>BackupJob does not have a Hibernate session</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-392</td>
<td>Mistyped link syntax gets rendered weirdly</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-446</td>
<td>ampersand in links breaks them</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-467</td>
<td>&quot;Display Default Decorator&quot; shows edited template, not default</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-488</td>
<td>Too much white space generated?</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
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<tr>
<td>CONF-424</td>
<td>(children) macro barfs on removed child page</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
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<tr>
<td>CONF-448</td>
<td>Replace all webwork.urlEncode with generalUtil.urlEncode</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-397</td>
<td>HTML emails contain #emailUserLink (mike)</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-481</td>
<td>Newly added comment doesn't appear when posted</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
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<tr>
<td>CONF-463</td>
<td>Path admin page still thinks it's a setup step</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-468</td>
<td>Link extraction should exclude (code) contents</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
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<tr>
<td>CONF-432</td>
<td>Exception when diffing added line</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
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<tr>
<td>CONF-433</td>
<td>No security checking in FileServerServlet!</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
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<td></td>
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<tr>
<td>-------</td>
<td>-------------</td>
<td>--------</td>
<td></td>
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</tr>
<tr>
<td>CONF-411</td>
<td>Cancel button not working on Add Comment Dialog</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONF-442</td>
<td>Line breaks () don’t work</td>
<td>Closed Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-441</td>
<td>“my link name” links in tables don’t work right</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-435</td>
<td>Macros still run inside (noformat) block</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-439</td>
<td>Email password doesn’t seem to work</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONF-404</td>
<td>Undefined pages report misrenders when link source is a comment</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-405</td>
<td>Usernames (while logging in or setting up a new account) shouldn’t be considered as case sensitive</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-384</td>
<td>Login cookie appears to be broken on confluence.atlassian.com:8080</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-452</td>
<td>Permissions check for /signup.action always fails</td>
<td>Closed Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-393</td>
<td>“<em>boldme</em>” does not work.</td>
<td>Closed Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-485</td>
<td>Incoming links from space descriptions buggy</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-472</td>
<td>Adding a comment does not display it right away</td>
<td>Closed Resolved Fixed</td>
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<tr>
<td>CONF-494</td>
<td>Export from data originating in beta1 may be unimportable in beta2</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-440</td>
<td>Confluence Login cookies conflict with JIRA</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-451</td>
<td>Setting a homepage makes dashboard inaccessible.</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONF-470</td>
<td>Apostrophe double-encoded inside {code} block</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-476</td>
<td>Editing personal information in user profile stops working</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONF-423</td>
<td>Should not be able to add ANYONE group to ADMINISTRATE Confluence/Space permissions</td>
<td>Closed Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-453</td>
<td>“<em>Add Page</em>” permission checking is not consistent when logging in as anonymous</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONF-409</td>
<td>Logging in anonymously &amp; the UI display keys!</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-466</td>
<td>{color} macro messed up by surrounding {{monospace}} markup</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONF-422</td>
<td>i18n text inside a webwork 2 component do not display (only their keys do) for anonymous users</td>
<td>Closed Duplicate</td>
<td></td>
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</tr>
<tr>
<td>CONF-354</td>
<td>Can not use LDAPCredentialsProvider</td>
<td>Closed Won’t Fix</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-421</td>
<td>NPE when sending notifications for anonymous user activity</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-479</td>
<td>Errors invisible on &quot;rename page&quot; form</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CONF-447</td>
<td>Error automatically creating pages with illegal names</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-383</td>
<td>Export space fails</td>
<td>Closed Won’t Fix</td>
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<tr>
<td>CONF-486</td>
<td>Space descriptions can’t contain links in their space</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-459</td>
<td>' is converted into &amp;#8217</td>
<td>Closed Cannot Reproduce</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-464</td>
<td>Standalone tomcat version is not working!</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Release Notes 1.0b4**

**Confluence 1.0b4**

To belatedly ring in the Year of the Code-Monkey, it’s time for Confluence 1.0 beta 4. We’ve had some great feedback on the last few betas, thanks to everyone for submitting bugs, and contributing to the forums and discussion space.

**Contents**

1. Unknown macro: {link}
2. Unknown macro: (link)
3. Unknown macro: (link)
4. Unknown macro: (link)
5. Unknown macro: (link)
6. Unknown macro: (link)

See also: Issues Resolved for 1.0b4

**Atlassian FatCow**

Along with 1.0b4, we're also releasing **FatCow**: Functional Acceptance Testing for the Confluence Wiki. Styled after Ward Cunningham's FIT and Bob Martin's Fitnesse, FatCow allows you to define web-based acceptance tests in wiki notation, and then run them from inside Confluence. Here's a tutorial showing how to write a quick FatCow test suite that makes sure Confluence shows up on Google. 😊

FatCow is Open Source, and also serves as example code for anyone who wants to extend Confluence by writing their own macros (something that we'll be looking to make easier in future releases).

**New Features**

**Blog Posts**

Each space can now host a "blog" of pages that are organised by date, rather than just by title. This is pretty useful if you want to attach some kind of updating news to a space. The "create blog post" button can be found on the right-hand toolbar.

Blogging support is pretty basic right now: you can create posts, and you can include the most recent posts in a page using the `{blog-posts}` macro. Rest assured, we'll be piling on the features in the next few releases.

**Move Pages Between Spaces**

A much requested feature, our newest refactoring lets you move pages cleanly from one space to another. We're using this already to maintain a private space where we stage documentation waiting to be transferred to the main documentation space.

**Configurable Site Description**

You can now change the text in the site description that appears on the user's dashboard: somewhere to put welcome messages or MOTDs. And, of course, it understands Confluence markup.

```includePage("Page") Velocimacro```

For the decorator-editors, you can use this render the contents of a page anywhere inside a decorator. The page has to be in the space that the user is looking at, and if the page does not exist, nothing will be rendered.

**New Macros**

- `{blog-posts}` displays the most recent blog posts for a space.
- `{rss}` macro now has `maxEntries` and `titleBar` parameters.
- `{anchor}` macro allows you to create named anchors in a page (link to them with `[SPACE:page#anchor]`)  

**Improvements**

- You can now draw en – and em — dashes.
- `mailto:` links are now drawn as just the email address, like so `user@example.com`
- the `{search}` macro now excludes the page it was included in from the search results
- you can also link to attachments using #-anchors `[SPACE:page#attachment.pdf]`
- you are given the opportunity to pick a template when creating a page from a link, and any entered page title survives picking a page template

**Notable Bug-fixes**

- Spurious error message about editing a stale version of a page have been squashed.
- No longer crashes when you add a user to certain groups.
- Some database queries have been rewritten to work around the fact that MySQL doesn't understand sub-selects.
- Diffs more reliably highlight changed words.
- Several minor rendering problems to do with deeply nested lists have been fixed.
- and many more...

**Outstanding Issues**

- You should restart Confluence immediately after finishing the initial setup steps, to avoid data loss CONF-493
- New-lines may not be drawn if the next line starts with whitespace CONF-475
- Emoticons are rendered inside `{noformat}` blocks CONF-502

**Issues Resolved for 1.0b4**

Errors were reported by the JIRA trusted connection.

- `APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]`
<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-460</td>
<td>FIT macros and integration</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-501</td>
<td>– and – filters</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-291</td>
<td>Ability to move a pages between spaces</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-192</td>
<td>Ability to link to attachments</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-234</td>
<td>Blog posts</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-509</td>
<td>Site description</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-531</td>
<td>Add Max Entries parameter to rss macro</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-534</td>
<td>Search macro should exclude page it's included on</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-554</td>
<td>Support emdash like Textile</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-544</td>
<td>add a titleBar=true</td>
<td>false option to rss macro</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-555</td>
<td>mailto links should look better</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-513</td>
<td>Form rules on 'Create Admin Account' during setup!</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-543</td>
<td>Preview &amp; Confirm is always telling me the page is outdated</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-517</td>
<td>Back button &quot;rollbacks&quot; changes when previewing a page</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-537</td>
<td>HTML export is broken</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-505</td>
<td>Internal anchor links have the external link icon</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-528</td>
<td>jiraissues macro does not display due column</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-516</td>
<td>Cannot add user to additional groups</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-524</td>
<td>Edit Page Conflicts is buggy - often seems to detect conflicts which aren't there</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-519</td>
<td>Lists only work to 4 levels</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-504</td>
<td>(include) macro confuses (children) macro.</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-535</td>
<td>Removing a page gives exception on MySQL</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-510</td>
<td>'Browse Pages' does not show the recently modified pages (in green)...</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-508</td>
<td>Space description links don't take you to the space description</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-474</td>
<td>Don't get the chance to fill out variables</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-444</td>
<td>JDBC error accessing orphaned pages on mysql</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-529</td>
<td>template variables with an underscore in the name don't highlight properly</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-547</td>
<td>MySQL doesn't support sub-selects</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-526</td>
<td>Moving page doesn't break parent/child relationships</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-567</td>
<td>Home link should take users to the home page</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-445</td>
<td>JDBC error accessing undefined pages on mysql</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-523</td>
<td>Single word diff rendering is buggy</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-566</td>
<td>Previewing multiple times while editing confuses the versioning system</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
</tr>
<tr>
<td>CONF-546</td>
<td>Hot Referrers includes editing links</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-507</td>
<td>SnipSnap import does not add users to confluence-users</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-518</td>
<td>Deeper item in list can't be bold</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-515</td>
<td>Home link on summary page goes to... summary.</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>
Release Notes 1.0rc1

Confluence 1.0rc1

It's Friday again, and that means it's time for us to release Murray; Confluence 1.0 Release Candidate 1.

RC1 marks the start of the feature-freeze as we plunge headfirst towards a stable 1.0 release. From now until 1.0-final we will be concentrating on fixing up the remaining bugs and polishing the interface. We are hoping that we won't need to send out a second release candidate, but we can't really make any promises until we've had a chance to go through the inevitable deluge of new issues that will follow this release.

Of course, this means that there are features you want to see in Confluence that won't make it into 1.0-final. Keep those ideas and suggestions coming. Confluence isn't going to stop at 1.0 – we just had to draw a line somewhere or we'd end up perpetually in beta. We have no plans to slow development after the first major release. Your Confluence licence includes a year of upgrades, and if you think Confluence is way cool now, it's just going to get better.

As always, before upgrading an existing Confluence installation, be sure to back up your data.

As you can see below, we've been busy the last two weeks. A hard-earned thirst needs a good cold beer.

Contents

1. Unknown macro: (link)
2. Unknown macro: (link)
3. Unknown macro: (link)
4. Unknown macro: (link)
5. Unknown macro: (link)
6. Unknown macro: (link)

See also: Issues Resolved for 1.0rc1

New Features

Remote API

Confluence can now be browsed and edited remotely via SOAP or XML-RPC. There are more details of the XML-RPC API here, while the SOAP WSDL can be downloaded from $your_confluence_root$/rpc/soap/confluenceservice-v1.wsdl. Throwing together a GUI client for Confluence is now pretty easy, so feel free to embed Confluence support into your favourite editor, web browser or IDE.

Blogging Enhancements

The sketchy blogging support from Beta4 has been upgraded and overhauled. Enhancements include:

- The look and feel of blog pages has been greatly improved
- A "recent blog posts" list available from the Space Summary page
- Daily and monthly views for blog posts
- Blog posts can now be edited and deleted
- You can now link to blog posts using the internal link syntax. Blog posts are addressed by their posting-date and title, like so: [SPACEKEY:/2004/01/03/Blog Post Title]
- RSS feeds are available for new blog posts, both globally (from the dashboard), and for each space (from the space summary page)

Also, anonymous users are no longer allowed to post blog entries. We couldn't really think of a use-case where anonymous blog-posts would be wanted, but if you can, let us know!

Configurable User Notification

With any knowledge-sharing application, it's important to keep informed as to what has changed. One way to do this is by subscribing to any of the RSS feeds offered by Confluence. Another is to have Confluence email you directly whenever there has been a change. Up 'til now, users have had to make do with the ad-hoc regular-expression based notifications that were put in for developers. With RC1, we now have a more fine-grained and user-friendly way to choose how you find out about changes to the site.

1. Each day, Confluence can email you a summary of any changes that have been made to the site in the past 24 hours. You can activate this feature in your user preferences.
2. You can subscribe to "watch" a page from the option in the right-hand operations menu. Whenever the page is modified, commented
on, or a new attachment is added, you will receive an email. When you no longer want to watch the page, you can click the icon again to unsubscribe.

3. You can subscribe to watch an entire space from the option on the space summary page. This subscribes you to all pages in that space, and also notifies you when new pages are created.

Each user can now also choose whether or not they will be notified of changes they make themselves.

**Trackbacks**

While Confluence has always tracked links between pages within the Confluence site, it now has a way to track links to and from external sites: the Trackback API. In this way, a Confluence page can be informed when another site has mentioned it, and inform other sites that it has linked to them.

We have implemented the Trackback and Trackback auto-discovery APIs across pages and blog-posts. Trackback is a widely implemented API that allows web pages to notify each other of links. You can enable (or disable) trackbacks from the Confluence general administration page.

When Trackbacks are enabled, each Page and Blog Post within Confluence is set up to receive trackback pings, and contains the auto-discovery code to allow clients to automatically find out how to send those pings. Trackbacks that are received are listed in the right-hand sidebar of the page.

Also when Trackbacks are enabled, Confluence will perform auto-discovery on each outgoing link from a page to see if the destination is equipped to receive trackbacks, and send its own trackback ping.

Look forward to future versions of Confluence making very interesting use of this feature.

**Per-Space Look and Feel**

The template-- and colour-scheme editing features that were available on a global basis in previous versions of Confluence can now be configured separately for each space, allowing you to apply a different look and feel to the various spaces within your Confluence site.

**New Macros**

- `{panel}` macro allows you to draw a shaded box containing some content

**Improvements**

- Import and Export should now be much faster, and use significantly less memory
- The user browser now has a search function, to make it possible to manage large numbers of users effectively
- Incoming links are no longer displayed on a page if the user is unable to view the page being linked from
- The `{anchor}`, `{blog-posts}`, `{index}` and `{quote}` macros are now documented properly.
- You can escape smileys by putting a backslash before their last character, to cause them not to be rendered as images :)  
- You can now link to peoples' user profile pages with [~username] (e.g. Charles Miller)
- You can now link to space homepages with [SPACEKEY:] (e.g. TEST:)
- mailto: links have a nifty icon: user@example.com
- The History popup now tracks your visits to blog posts, space summaries and user profile pages
- Recent changes listings on the dashboard, user profile and space summary pages now includes changes to all content, not just pages.
- New Emoticons! (well, icons really)

<table>
<thead>
<tr>
<th>(y)</th>
<th>(n)</th>
<th>(i)</th>
<th>(/)</th>
<th>(x)</th>
<th>(!)</th>
</tr>
</thead>
</table>

| (y) | 🧡 | 🍔 | ✅ | ❌ | 🚨 |

**Notable Bug-fixes**

- Added HTML headers to detect and prevent RSS, HTML-Include and FatCow macros from being made to loop in on themselves. CONF-525
- The `{anchor}` macro, and [DOCPRIV: null] links now work as advertised. CONF-616, CONF-605
- Fixed a divide-by-zero error in page diffs CONF-584
- Included `javax.transaction` libraries with release, to allow the WAR to run under Tomcat 5 CONF-613
- And many more rendering and stability fixes...

**Outstanding Issues**

- Still some problems with character encoding in page titles CONF-569
- HTML include macro interacts badly with other Radeox filters CONF-549

**Database Changes from Beta4**

**New Tables**

TRACKBACK and NOTIFICATION tables were introduced. These tables should be generated automatically when you first start RC1.

**New column in the EXTRNLINKS table**
Confluence 3.0 Documentation

- alter table EXTRNLINKS add column CONTENTTYPE varchar(255);

**Constraint Change on LINKS Table**

The "not null" constraint was removed from the DESTPAGETITLE column of the LINKS table. Consult your database documentation on how to alter your database for this change. For example:

- MySQL 3.23: alter table LINKS modify DESTPAGETITLE VARCHAR(255);
- PostgreSQL 7.3.2: alter table LINKS alter DESTPAGETITLE drop not null;

**Issues Resolved for 1.0rc1**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

### JIRA Issues (63 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-579</td>
<td>Daily Notification Report</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-540</td>
<td>Recent Blog Posts RSS feed</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-559</td>
<td>Add Trackback support</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-280</td>
<td>Implement VP Wiki API</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-545</td>
<td>create a panel macro</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-581</td>
<td>Notify me for this page</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-591</td>
<td>Remote XML-RPC API</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-615</td>
<td>Create SOAP API</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-541</td>
<td>Blog Post Daily View</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-538</td>
<td>Internal links to blog-posts</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-465</td>
<td>Per-space colour schemes</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-542</td>
<td>Blog Post Monthly View</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-580</td>
<td>Notify me for this space</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-553</td>
<td>Link directly to user profile</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-626</td>
<td>Recent Blog Posts page</td>
<td><img src="https://example.com/resolved" alt="Resolved" /></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-561</td>
<td>Space specific decorators</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-617</td>
<td>History popup now tracks viewing user info pages</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-568</td>
<td>documentation for {anchor} macro missing</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-601</td>
<td>18n for execution threads that aren't triggered by web requests</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-562</td>
<td>&quot;New file attached&quot; notification email</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-558</td>
<td>nice icon for mailto: links</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-506</td>
<td>Remove blurb from {jiraissues} header.</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-557</td>
<td>Improve user browser</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-578</td>
<td>Display of comment section remembered by page</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-539</td>
<td>Edit/delete blog posts</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-576</td>
<td>Blog page L&amp;F needs to be more blog like</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-583</td>
<td>Do not notify user of his own actions</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-625</td>
<td>&quot;Recent Changes&quot; lists should include changes to all content types</td>
<td><img src="https://example.com/closed" alt="Closed" /></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-502</td>
<td>Need a way to escape smileys</td>
<td><img src="https://example.com/resolved" alt="Resolved" /></td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-600</td>
<td>listpages.action should show a page count</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-564</td>
<td>Error deleting template</td>
<td>Closed Cannot Reproduce</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-624</td>
<td>Prevent trackback autodiscovery from downloading just anything</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-610</td>
<td>Pages with a parent are, by definition, not orphaned</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-563</td>
<td>Incoming links displayed for pages you can't see</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-588</td>
<td>Links in noformat macro broken</td>
<td>Closed Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-572</td>
<td>ImportExportException</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-570</td>
<td>Moving page doesn't update internal links</td>
<td>Closed Fixed</td>
<td></td>
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<td>CONF-612</td>
<td>Bug on &quot;Moving Page&quot;</td>
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<tr>
<td>CONF-3286</td>
<td>CLONE -New line disappears</td>
<td>Closed Cannot Reproduce</td>
<td></td>
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</tr>
<tr>
<td>CONF-622</td>
<td>Errors with new links</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-621</td>
<td>Stack trace editing issue</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-525</td>
<td>RSS macro can loop on itself</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-592</td>
<td>Changing parent page doesn't work</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-620</td>
<td>Can't edit personal profile</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-536</td>
<td>Renaming backup files is dangerous</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-574</td>
<td>missing velocity file for blog post preview</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-552</td>
<td>search macro output is not updated</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
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<tr>
<td>CONF-582</td>
<td>exception when removing page</td>
<td>Closed Cannot Reproduce</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-475</td>
<td>New line disappears</td>
<td>Closed Won't Fix</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-609</td>
<td>Deny blog posting for anonymous users</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-623</td>
<td>children Hierarcy macro fails if page is assigned to heirarchy later</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
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<tr>
<td>CONF-571</td>
<td>Links in PDF export broken (contain <a href="http://www.atlassiannull.com/blah">www.atlassiannull.com/blah</a>)</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-618</td>
<td>Can not setup with hsqdl</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-616</td>
<td>Links containing &amp;#xxxx; entities are malformed</td>
<td>Closed Fixed</td>
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<td></td>
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<tr>
<td>CONF-613</td>
<td>javax.transaction not included in lib jars</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
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<tr>
<td>CONF-605</td>
<td>Page anchors showing in links</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-602</td>
<td>No notification email is sent!</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-573</td>
<td>Insert Link is broken</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-584</td>
<td>page diff results in ArithmeticException</td>
<td>Closed Fixed</td>
<td></td>
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<tr>
<td>CONF-585</td>
<td>faulty rendering of anchor links</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-628</td>
<td>Can not choose custom backup path</td>
<td>Closed Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-597</td>
<td>Templates feature doesnt seem to work in B3</td>
<td>Closed Duplicate</td>
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<tr>
<td>CONF-590</td>
<td>When renaming a page name truncalates first letter of new link</td>
<td>Closed Cannot Reproduce</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Release Notes 1.0rc2**

Confluence 1.0rc2

After a week of frantic bug-fixing, we have released Confluence 1.0 Release Candidate 2. Thanks everyone for reporting all the bugs they found in RC1. While we really hope you'll keep reporting anything you find that doesn't work, we're also hoping that there's a lot less to report now.
We have released RC2 because it's a lot more stable than RC1. We know a lot of you are already using Confluence in some kind of production capacity, and we don't want to keep you waiting for the important fixes that we put in this week.

Since we're in the middle of a feature freeze, there obviously aren't any new major features in this release, but there are a number of incremental improvements, and a lot of fixes.

But first, a...

**WARNING**

If you are upgrading from Confluence 1.0rc1, do not perform a backup of your data from within Confluence. There was a serious bug with RC1 that caused user permissions to be corrupted during data exports.

There have been no database changes between RC1 and RC2, so you should simply be able to run RC2 against your existing data without performing a backup/restore.

If you wish to back your data up safely before the upgrade, you will need to do so manually: shut down Confluence, make a copy of your Confluence home directory (as defined in confluence-init.properties, and if you are storing your data in something other than HSQL, use your database's native backup procedure.

**Contents**

1. Unknown macro: [link]
2. Unknown macro: [link]
3. Unknown macro: [link]

See also: Issues Resolved for 1.0rc2

**Improvements**

- Remote XML-RPC and SOAP APIs now have a `getPermissions()` method
- `{noformat}` macro accepts a title parameter
- Page view and create links are no longer displayed if the user does not have permission to view or create the destination page.
- When you create a page from viewing a previous page, you are given another chance to make that page the new page's parent.
- RSS and HTML include macros use HTML proxies if they are defined using the standard Java `http.proxyHost` and `http.proxyPort` system properties.
- Default session timeout is now 60 minutes
- Improvements to user browser and user profile page UI
-Shortcut link definitions are now backed up and restored

**Notable Bug-fixes**

**Stability**

We've done a lot of work tracking down the source of any exception and page error that has been reported to us, and fixing their causes. We've also made one or two improvements to the error reporting page, but we're hoping you won't see it nearly as often (if at all) any more.

**Page Templates**

The creation, editing and deletion of page templates should now be a lot more reliable and provide a smoother user experience.

**Also**

- You no longer have to restart Confluence after its initial setup CONF-493
- Performing a full data export no longer corrupts users' group membership data. CONF-645
- You can now link to profiles of users with an @ symbol in their usernames CONF-639
- Trying to create a page with illegal characters in its name no longer loses your page content on some browsers. CONF-713
- Trackback pings are now sent for URLs that are not surrounded by square brackets CONF-708
- And, of course, many more...

**Outstanding Issues**

The two major areas we still need to work on are the PDF export and the use of non-ASCII characters in pages (especially page titles). Handling of both are much better than they were a week ago, but there's still some work to do before they're completely reliable.

**Issues Resolved for 1.0rc2**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (74 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONF-589</td>
<td>Way to prevent a http URL from being rendered as a link</td>
<td>![Green Checkmark]</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>Ticket</td>
<td>Description</td>
<td>Status</td>
<td>Resolution</td>
<td></td>
<td></td>
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<tr>
<td>CONF-255</td>
<td>Please please please. Support external (LDAP) groups.</td>
<td>Closed</td>
<td>Won't Fix</td>
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<tr>
<td>CONF-532</td>
<td>Add title parameter to noformat macro (and you can rename it at the same time to 'block')</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-642</td>
<td>Pages that have more than one version have different icon</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-668</td>
<td>Up default session timeout to 60 minutes</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-640</td>
<td>Fix user browser UI</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-641</td>
<td>Improve user profile UI</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-636</td>
<td>Anchor links to local page anchors classed as incoming link</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-670</td>
<td>Javascript 'Make previous page into parent' link</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-646</td>
<td>Move &quot;new blog post&quot; away from &quot;add child page&quot;</td>
<td>Closed</td>
<td>Fixed</td>
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<td>CONF-700</td>
<td>Create a page from a sub page should implicit include the parent page in the Create Page Dialogue</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-697</td>
<td>Edit my profile page help information is inconsistent</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-654</td>
<td>Make double-encoding smarter</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-666</td>
<td>Remote APIs need a getPermissions() method</td>
<td>Closed</td>
<td>Fixed</td>
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<td>CONF-714</td>
<td>RSS and HTML include macros should use proxies if defined</td>
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<td>Fixed</td>
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<td>CONF-596</td>
<td>User friendly options for exporting a space</td>
<td>Closed</td>
<td>Duplicate</td>
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<td>CONF-656</td>
<td>Emoticons path is wrong</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-631</td>
<td>SOAP service can't get started ....</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-689</td>
<td>PDF export of page containing ndash (--) fails</td>
<td>Closed</td>
<td>Fixed</td>
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<td></td>
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<tr>
<td>CONF-708</td>
<td>External links that are not bracketed &quot;[ ]&quot; are not pinged for trackbacks</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-690</td>
<td>Italic text effect in link text broken</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-659</td>
<td>Snipsnap Import Fails.</td>
<td>Closed</td>
<td>Fixed</td>
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<tr>
<td>CONF-662</td>
<td>Login required to browse spaces</td>
<td>Closed</td>
<td>Won't Fix</td>
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<tr>
<td>CONF-703</td>
<td>Unable to create template of same name, after deleting original</td>
<td>Closed</td>
<td>Cannot Reproduce</td>
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<tr>
<td>CONF-704</td>
<td>Template stops working once you've edited it once</td>
<td>Closed</td>
<td>Fixed</td>
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<td>CONF-673</td>
<td>isUserWatchingSpace throws null pointer sometimes</td>
<td>Closed</td>
<td>Fixed</td>
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<td>CONF-706</td>
<td>Recent updates lists gets page modifier wrong if anonymously edited.</td>
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<td>Fixed</td>
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<td>ID</td>
<td>Description</td>
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<tr>
<td>CONF-652</td>
<td>RSS feeds throw NullPointerExceptions</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-644</td>
<td>Cannot backup data</td>
<td>Fixed</td>
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<tr>
<td>CONF-658</td>
<td>Panel, first list item not recognized, and not closing on multiple list items</td>
<td>Fixed</td>
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<tr>
<td>CONF-669</td>
<td>Exception clicking &quot;New Blogs&quot; link</td>
<td>Fixed</td>
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<tr>
<td>CONF-681</td>
<td>Rename problems (CONF-496) persist in pages made with previous versions</td>
<td>Fixed</td>
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<tr>
<td>CONF-685</td>
<td>Attempting to export a non-perfect page as PDF breaks</td>
<td>Fixed</td>
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<tr>
<td>CONF-619</td>
<td>Upgrade from B3 to B4 gives InfrastructureException</td>
<td>Won't Fix</td>
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<tr>
<td>CONF-493</td>
<td>Confluence not fully set up until first restart</td>
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<tr>
<td>CONF-484</td>
<td>Some links in the documentation site are &quot;create new page&quot; links</td>
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<tr>
<td>CONF-627</td>
<td>Link icons don't show up in PDFs</td>
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<tr>
<td>CONF-360</td>
<td>Edit Profile corrupts user record</td>
<td>Duplicate</td>
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<tr>
<td>CONF-687</td>
<td>Comments to blog posts that appear on the dashboard recently updated list are broken</td>
<td>Fixed</td>
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<tr>
<td>CONF-688</td>
<td>SOAP service has $Proxy name</td>
<td>Fixed</td>
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<tr>
<td>CONF-691</td>
<td>Can't delete page templates that have been edited</td>
<td>Fixed</td>
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<tr>
<td>CONF-696</td>
<td>Wrong type of date returned incall to getPage and getPageHistory</td>
<td>Fixed</td>
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<tr>
<td>CONF-699</td>
<td>Renaming page and only changing the case gives error message</td>
<td>Fixed</td>
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<tr>
<td>CONF-713</td>
<td>Creating a page with bad characters in the title loses page content</td>
<td>Fixed</td>
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<tr>
<td>CONF-711</td>
<td>NPE in Global &quot;spaces report&quot;</td>
<td>Fixed</td>
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<tr>
<td>CONF-716</td>
<td>SQL error removing user on Postgres</td>
<td>Fixed</td>
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<tr>
<td>CONF-679</td>
<td>Blog RSS DTD gives 404</td>
<td>Fixed</td>
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<td></td>
</tr>
<tr>
<td>CONF-683</td>
<td>PDF export fails on {children} macro</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-633</td>
<td>Can't restore the extranet data locally</td>
<td>Won't Fix</td>
<td></td>
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<tr>
<td>CONF-675</td>
<td>When running confluence under a non-default context, exporting PDF breaks</td>
<td>Duplicate</td>
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<tr>
<td>CONF-648</td>
<td>Unable to set the name of a page using templates once a template is selected</td>
<td>Fixed</td>
<td></td>
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</tr>
<tr>
<td>CONF-695</td>
<td>Inconsistencies in remote soap api</td>
<td>Fixed</td>
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<tr>
<td>CONF-677</td>
<td>Exporting a page as PDF with macros results in &quot;null&quot;</td>
<td>Fixed</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
### Release Notes 1.0rc5

**Confluence 1.0rc5**

It's time to release Confluence 1.0rc5 into the wild: it's the fourth Release Candidate since last Friday, and we're definitely getting close here. The last two release-candidates did not have their own release-notes, so these notes will also include things that were fixed for those versions.

**Contents**

1. New Features
2. New Macros
3. Improvements

---

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<tr>
<th>ID</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-905</td>
<td>When creating a document with the template Java error occurs</td>
<td>Closed Cannot Reproduce</td>
</tr>
<tr>
<td>CONF-967</td>
<td>admin login doesn't work in Safari</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-945</td>
<td>groups disappearing for users</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-935</td>
<td>Can not view the users which have their username start with capital !</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-978</td>
<td>Exporting entire space gives ImportExportException</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-984</td>
<td>Clicking on Previous Version -&gt; Version gives NPE</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-998</td>
<td>Anonymous users cannot access the RSS feeds. Throws a NPE</td>
<td>Closed Duplicate</td>
</tr>
<tr>
<td>CONF-951</td>
<td>Viewing previous version diff &quot;to previous&quot; throws NullPointerExceptions</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-939</td>
<td>[~username] link fails when username contains @</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-947</td>
<td>Templates feature doesn't seem to work in RC1</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-954</td>
<td>Notifications not updated when a page is deleted</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-955</td>
<td>Upload attachment without specifying file should have nicer error</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-972</td>
<td>NPE with GlobalRSSFeed</td>
<td>Closed Fixed</td>
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<tr>
<td>CONF-932</td>
<td>ClassCastException in BackupJob</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-934</td>
<td>Shortcut/Interwiki links are not backed up and restored!</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-702</td>
<td>Export to PDF doesn't render all text correctly</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-701</td>
<td>Export page to PDF, click on generated link for page that doesn't exists...generates a NPE</td>
<td>Closed Duplicate</td>
</tr>
<tr>
<td>CONF-657</td>
<td>Various crashes with space-less links in user profiles</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-349</td>
<td>Create page from template</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-686</td>
<td>Servlet context added for export causing problem with mod_jk</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-649</td>
<td>&quot;Create Page&quot; link displayed even when user can't create a page</td>
<td>Closed Fixed</td>
</tr>
</tbody>
</table>
4. Notable Bug-fixes
5. Outstanding Issues

See also: Issues Resolved for 1.0rc5

New Features

In keeping with our promise to not add any features during the Release Candidate process, we have been very restrained, and only added two new features 😊

Template Preview

Page templates have been given an overhaul: when filling in your template variables, you are presented with a template of the rendered page, with input fields where the variables will be inserted. If you have the same variable used in several places, the form will take care of keeping them all in sync.

Step 2: Fill in template variables

Choose values for the variables in this template. These values will be automatically inserted into the template for you in the correct locations.

New template (title)
By David Loeng (author)
February (month) 20th (day), 200 (year)

After a week of frantic bug-fixing, we have released Confluence 1.0 Release Candidate 2. Thanks everyone for reporting all the bugs they found in RC1. While we really hope you'll keep reporting anything you find that doesn't work, we're also hoping that there's a lot less to report now.

(from) - (to)
(from) - (to)
(from) - (to)

We have released RC2 because it's a lot more stable than RC1. We know a lot of you are already using Confluence in some kind of production capacity, and we don't want to keep you waiting for the important fixes that we put in this week.

Since we're in the middle of a feature freeze, there obviously aren't any new major features in this release, but there are a number of incremental improvements, and a lot of fixes.

Regards,

David Loeng (author)

Page Redirection

When you rename or move a page, the page's old URL will attempt to give users some clue as to where they should be looking: checking which pages have had this name in the past, or redirecting users to pages in another space with the same name.
New Macros

- `{weblogs}` is a synonym for `{blog-posts}`

Improvements

- The user signup screen has a more friendly UI
- Exported PDFs now incorporate the site's stylesheet, and thus look a lot better.
- Confluence now has a useful "404" error page that gives the user some suggestions of how to find what they were looking for.
- An Administrators page, linked from the footer of each page, lists those users in the "confluence-admin" group. (If you don't want your address to be made public on this page, create an administrative group with some other name)
- The error you receive when you exceed your licensed user limit is more informative, and no longer directs users to email Atlassian.

😊
- The SnipSnap importer converts SnipSnap blog posts to Confluence blog posts.
- Several methods added to the XML-RPC and SOAP APIs for managing users and spaces. (See Conf Remote API Additions)
- The Daily Report email is more informative and more readable
- Page comments and Parent/child relationships are maintained during HTML and PDF exports
- `news:` and `nntp:` URL schemes are now recognised in bracketed links

Notable Bug-fixes

Since RC2

- Links between pages now work when you have a context path other than `/` (oops!)
- The daily report email is no longer sent every minute (oops!)
- You can no longer download attachments without being logged in (OOPS!)
- Search results no longer highlight words that were terms in previous searches

Since RC3

- Page redirects now work properly under Orion 2.0.2

Since RC4

- Removing a user no longer causes their notifications to hang around and crash things
- Removing a blog post works, too
- Many fixes to PDF rendering and exporting
- Many fixes to handling of Latin character set (See outstanding issues below)
- Invalid macros now give a more informative error than "no group 3"
- The 404 error page no longer requires you to log in to view it
- Macros that generate HTML (page include, HTML include, JIRA, RSS, FatCow) bypass the remainder of the page processing, and so should have far fewer formatting errors now.
- User browser filter remembers your search across pages

Plus, of course, innumerable fixed to annoying crashing bugs across all three releases.

Outstanding Issues

Latin Characters under Resin

We've tested creating pages with non-ASCII titles and content across several different browsers and several different operating systems, and they seem to be working reliably now... except on Resin. This will be quite noticeable since confluence.atlassian.com itself is running under Resin, but we have so far been unable to come up with a solution that works on this application server.

For users who need this functionality, we suggest running under Tomcat.
• On MySQL, the "orphaned pages" report may include the space’s homepage CONF-766
• Combining block macros with lists is dangerous CONF-756
• Under some circumstances, paragraph tags will not be closed CONF-746

**Issues Resolved for 1.0rc5**

Errors were reported by the JIRA trusted connection.

• APP_UNKNOWN; Unknown Application: [0]; ["confluence:4557196"]

### JIRA Issues (35 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONF-775</td>
<td>Add user management methods to remote API for administrators</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-787</td>
<td>Allow news: and rtmp: URL schemes in [links]</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-788</td>
<td>Forced newline // should give &lt;br clear=&quot;all&quot;/&gt;</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-750</td>
<td>Improve the UI of the signup screen</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-773</td>
<td>Make daily email a bit more readable</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-499</td>
<td>Renaming a page should leave behind an HTTP redirect</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-755</td>
<td>create a ConfluenceException and throw when we have a user correcatable error</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-723</td>
<td>The parent/child relationships are not reflected in HTML exports!</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-763</td>
<td>space scoped templates not showing up on Browse Templates page</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-719</td>
<td>PDF Export Bookmark browser doesn't reflex parent/child page relationship</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-781</td>
<td>NPE on 500 error response that contains no exception under Orion</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-751</td>
<td>Moving page edits space descriptions?</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-739</td>
<td>User browser filter not maintained in session</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-774</td>
<td>Daily Email not picking up all of the changes in a day</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-676</td>
<td>Exporting as a PDF, document with list items generates garbage in PDF</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-744</td>
<td>Exporting a page as PDF with {fatcontroller} breaks</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-772</td>
<td>putting in bogus URL doesnt show 404, later 404 looks unwell</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-767</td>
<td>html export zip appears empty as XP compressed folder</td>
<td>Closed</td>
<td>Won't Fix</td>
</tr>
<tr>
<td></td>
<td>CONF-769</td>
<td>Getting a lot of these traces running RC4 under tomcat 4.1.27</td>
<td>Closed</td>
<td>Won't Fix</td>
</tr>
<tr>
<td></td>
<td>CONF-770</td>
<td>NPE in space look and feel action</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-777</td>
<td>Remote API does not incidate space comment or admin perms</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-745</td>
<td>Panel, extra white space at top and extra extra when included</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
Release Notes 1.0rc6

Confluence 1.0rc6

Confluence 1.0rc6 fixes more bugs. Lots of them. There aren’t many new and interesting features to report, although we have implemented the much-requested ability to mask email addresses and prevent public signup. Mostly, we’ve been toiling away fixing the lots of little problems that are getting in the way of us calling Confluence truly worthy of the 1.0 label.

Contents

1. New Features
2. New Macros
3. Improvements
4. Notable Bug-fixes
5. Outstanding Issues

See also: Issues Resolved for 1.0rc6

New Features

Private Confluence Configuration

In private mode, the only way to add users to Confluence is through the administrative interface: users can not sign up on their own. This way, you can prevent random passers-by from signing on to your Confluence installation. The site administrator can configure this in the general administration settings.

Email Address Privacy

Another much-requested feature, the site administrator has three options for email-address privacy:

- Public: just like pre-rc6, users email addresses are displayed publicly.
- Masked: email addresses are still displayed publicly, but masked in such a way to make it harder for spam-bots to harvest them.
- Private: only site administrators can see users’ email addresses.

Administrators should be aware that even in private mode, anyone in the confluence-admin group will still be listed (with their email address) on the administrators page, although their addresses will be masked.
Share User Management with JIRA

For sites with both a Confluence and a JIRA installation, Confluence can be set up to delegate its user-management to JIRA.

Template Field Types

Templates now support drop-down menus and text-input areas.

@variablename|textarea(5,10)@ will give you a 5 x 10 text-area called 'variablename'.
@variablename|list(one,two,three,four)@ will give you a drop-down list called 'variablename', with options one, two, three and four.

Step 2: Fill in template variables

Choose values for the variables in this template. These values will be automatically inserted into the template for you in the correct locations.

Configuration Notes

Follow the instructions for installing SASL authentication from [here](http://ezine.daemonnews.org/200306/postfix-sasl.html)

New Macros

- The {html} will allow you to insert arbitrary HTML code into a page. This macro is turned off by default, as it is a security-risk on public systems. We only recommend you enable it on private or intranet-based Confluence installations where you trust your users not to write malicious HTML code. Here's a trivial example of its use:

  ```
  \{html\}
  <p>This HTML is <b>inserted</b> into the page</p>
  \{html\}
  ```

- The {junitreport} macro has an option: "reportdetails=failuresonly" that will cause it to only show details of tests that have failed. For example: {junitreport:directory=file://var/tests|reportdetail=failuresonly}

Improvements

- Users are now taken to their preferred homepage rather than the dashboard after logging in
- Text-fields in a template are disabled during preview and viewing
- Orphaned and Undefined page reports are now paginated
- Macros such as {code} or {noformat} are now made part of a list if they are placed adjacent to them

Notable Bug-fixes

- User->Group relationships should no longer disappear during manual or scheduled backups
- Search results no longer allow people to see content they might not be allowed to see
- Comments should no longer appear out of order on a page
- Moving a page between spaces no longer breaks #anchor links
- Many rendering fixes, some subtle, some not so
- Many stability fixes, especially regarding import and export

Outstanding Issues
Random MySQL Disconnections

If you are running Confluence against MySQL using Confluence’s built-in datasource, the connection with the database server may be lost after long periods of inactivity. We are pretty sure we have a fix for this, but since the bug takes several hours to manifest, we were not able to test the fix before the release of rc6.

The good news is that if we are right, it will only require a quick edit of your configuration file to implement the fix. Further announcements will be made both on confluence.atlassian.com, and the confluence-user mailing-list.

In the meantime, the workaround is to not use Confluence’s built-in datasource, but to configure Confluence to use your application-server’s JNDI datasources instead. Instructions for doing this with Tomcat can be found here, and if you need more help, don’t hesitate to contact us at confluence-support@atlassian.com.

Latin Characters under Resin

We’ve tested creating pages with non-ASCII titles and content across several different browsers and several different operating systems, and they seem to be working reliably now... except on Resin. This will be quite noticeable since confluence.atlassian.com itself is running under Resin, but we have so far been unable to come up with a solution that works on this application server.

For users who need this functionality, we suggest running under Tomcat.

Also...

- On MySQL, the “orphaned pages” report may include the space’s homepage CONF-766
- You can create a link to a page with an illegal title: prompting the user to create a page that can not exist CONF-810
- Trackbacks are not sent for shortcut links CONF-888

Issues Resolved for 1.0rc6

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<p>| JIRA Issues (52 issues) |
|-------------------------|---------------------|---------|---------|
| Type | Key | Summary | Status | Resolution |
| CONF-786 | Document running JIRA and Confluence on one standalone | Closed | Fixed |
| CONF-849 | Delegate confluence user management to JIRA | Closed | Fixed |
| CONF-813 | Mask/hide email preference | Closed | Fixed |
| CONF-792 | Private setup | Closed | Fixed |
| CONF-868 | Inline HTML Macro | Closed | Fixed |
| CONF-815 | Disable textfields in template on viewing and preview | Closed | Fixed |
| CONF-808 | Undefined and Orphanned pages are not getting paginated! | Closed | Fixed |
| CONF-812 | Wording on signup page | Closed | Fixed |
| CONF-837 | Have Junit report show failures only | Closed | Fixed |
| CONF-903 | Some final really quick UI fixes? | Closed | Won’t Fix |
| CONF-905 | It would be nice to be able to break up a list over several lines | Closed | Fixed |
| CONF-789 | Allow Template variables to have types | Closed | Fixed |
| CONF-906 | Users should be taken to their specified home page after successful login | Closed | Fixed |
| CONF-756 | Lists, and noformat blocks combination not working | Closed | Fixed |</p>
<table>
<thead>
<tr>
<th>Issue Key</th>
<th>Description</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-912</td>
<td>Templates barf on anchors with no context</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-855</td>
<td>Change notification email links do not use full server path</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-882</td>
<td>Browse pages does not show newly added pages until a page is deleted</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-872</td>
<td>List items with russian symbols break list</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-909</td>
<td>MySQL disconnects if configured for direct connection</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-846</td>
<td><code>{noformat}</code> renders spurious semicolon</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-860</td>
<td>Date / Time display in 12 hour format, without AM/PM</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-828</td>
<td>Search results include restricted spaces</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-804</td>
<td>Daily Email says all edits are by Anonymous</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-798</td>
<td>Inter-page links in exported PDF wrong</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-869</td>
<td>Crash on viewing own profile</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-873</td>
<td>Need to restart tomcat if confluence unused for a while</td>
<td>Closed</td>
<td>Duplicate</td>
</tr>
<tr>
<td>CONF-870</td>
<td>Remove space fails with a SQL Integrity Constraint Violation</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-871</td>
<td>Faulty rendering of sequenced text effects</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-820</td>
<td>Hibernate lazy instantiation problem on getRecentlyUpdatedContent() in ViewSpaceAction</td>
<td>Closed</td>
<td>Cannot Reproduce</td>
</tr>
<tr>
<td>CONF-836</td>
<td>Primary key conflicts after an import</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-838</td>
<td>Template of email notifications for 'text' format doesn't exist.</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-908</td>
<td>Input area to enter info in user profile is very small when using IE 6.0</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-854</td>
<td>ParseException when trying to use rss / jiraissues macro</td>
<td>Closed</td>
<td>Won't Fix</td>
</tr>
<tr>
<td>CONF-857</td>
<td>Blank Space on Enclosed (panel)</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-746</td>
<td>HTML Paragraph not closed if starts with number colon</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-915</td>
<td>Bold not working inside a sub-numbered Bullet</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-875</td>
<td>Unexpected end of input stream</td>
<td>Closed</td>
<td>Duplicate</td>
</tr>
<tr>
<td>CONF-839</td>
<td>Group bases permissions doesn't work properly</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-891</td>
<td>Comments appearing out-of-order</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-682</td>
<td>Single letter phrase notation doesn't work</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
Release Notes 1.1

Nymboida, Nym to his friends, is Confluence 1.1. He wants to be your friend.

Confluence 1.1 is the first major update to Confluence. It's faster, more reliable, and packed with new features. Thanks to our policy of a year's free upgrades, any current Confluence customer will be able to upgrade to 1.1 at no cost.

Current customers, or new users who wish to try out Confluence for 30 days can download either the standalone or WAR distributions from the Atlassian website: http://www.atlassian.com/software/confluence

Upgrading from 1.0.3a

Upgrading Confluence should be pretty easy: you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

- Users who have enabled external user-management by customising their osuser.xml file will need to read this document also.
- Users who have used MySQL or Postgresql with Confluence 1.0 should read this document which explains how to get rid of any extraneous triggers or indexes that might have been created.

Contents

1. New Features
2. New Macros
3. Improvements
4. Notable Bug-fixes
5. Outstanding Issues

See also: Issues Resolved for 1.1

New Features

Macro Management

The biggest Nymboida new feature from an end user point of view is going to be the rewritten macro support.

Management - You can now enable and disable macros from this convenient (and very attractive) console. Macros are now grouped into libraries to make the management and creation of related macros simpler. Libraries can be installed, activated or deactivated as a single entity.
User Macros - We've also had a lot of requests from users for simple formatting macros: people who wanted their code snippets or notes to be formatted in a certain way. Confluence 1.1 contains a simple way for administrators to create new macros from within the application without a restart: defining a template that the macro will apply to its arguments or content. User macros are very handy for providing consistent formatting and layouts across your pages.

Custom Macros - Installation of new macro libraries is a breeze: simply drop the library .jar file inside the web application, restart Confluence, and your new macros will appear in the management console. Confluence 1.1 also includes a custom macro toolkit (with Task List example shown below) to help users build their own complex macros easily using Java.

More information:
- Guide to Confluence Macros - a guide to the Macro Management console
- User Macros - how to write User Macros
- Custom Java Macros - obsolete - a guide (and worked example) for writing and distributing your own Java macros for Confluence
**Attachments: versioning, comments and WebDAV support**

**Versioning** - The number one feature request for Confluence 1.0 was versioned attachments. You ask, we deliver! Confluence can now have multiple versions of the same file attached to a page. It will keep a history of different versions of attachments, expandable dynamically.

**Comments** - Each attachment can now be accompanied with a comment describing why it is there, what it's about or the reason for it being attached. This is useful for tracking the differences between attachment versions, as well as for informing users as to why they should be interested in a particular file.

<table>
<thead>
<tr>
<th>Attachment Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>December大纲.xml</td>
<td>3 kb, Anonymous, Jun 08, 2004</td>
</tr>
<tr>
<td>Version.xml</td>
<td>3 kb, Anonymous, Jun 08, 2004</td>
</tr>
<tr>
<td>Version1.xml</td>
<td>3 kb, Anonymous, Jun 08, 2004</td>
</tr>
<tr>
<td>Resub Page.pdf</td>
<td>266 kb, Anonymous, Jun 08, 2004</td>
</tr>
<tr>
<td>Sid Vicious - My Way.mp3</td>
<td>3.71 Mb, Anonymous, Jun 08, 2004</td>
</tr>
</tbody>
</table>

**WebDAV** - You can configure Confluence to store attachments in an external WebDAV server. This allows companies with an existing WebDAV infrastructure to give users alternative ways of accessing attachments and attaching files to Confluence pages.

**Improvements to Page and Space Exports**

- Exporting pages and spaces to PDF should be a great deal more reliable now. Whereas in Confluence 1.0, the export was likely to fail if the pages contained questionable markup, we now dynamically clean up each page before we export it.
- You can choose whether or not page comments are exported. Often you want to exclude comments if you want to send out a PDF of a page or publish a space as a website.
- The templates used to publish pages and spaces to HTML can be customised on a global and per-space basis. This makes it easy to publish a static website from the contents of a Confluence space: customise your templates, choose which pages to export, and voila.

**Customise Display of Blog Posts**

The templates used to display blog posts (both individually and in lists) can be edited either globally, or on a per-space basis, in the same way as the site's main decorators are editable. Also, the interface for editing templates has improved and will continue to do so in future releases.

**Page Locking**

If you want to prevent another user from editing, deleting or renaming a page, you can now lock it. You may want to do this because certain pages in an otherwise public space (for example, front pages, disclaimers or copyright notices) must remain un-edited, or just because you're working on the page and don't want anyone else to interfere just yet.

Locking a page restricts editing to a single user (yourself), or members of a particular group. Anyone with the space administrative permission can override or delete a lock.

**Oracle and Weblogic Support**

We have made a concerted attack on the various issues that were making Confluence unreliable on Oracle and Weblogic, and we're pleased to report that both have been running just fine in testing. Most importantly, the bug that was preventing pages being saved to Oracle when they were over 4kb in length has been fixed.

For details of what precisely was fixed, see:

- The Weblogic support super-issue in JIRA
- The Oracle support super-issue in JIRA

**Search Powerpoint and Excel Attachments**

Confluence already searches across attached Word, PDF and RTF documents, XML, HTML and any plain text file. This search support has now been expanded in Nymboida to include searching and indexing of all text within Microsoft Powerpoint presentations and Excel spreadsheets.

In addition, the new attachment comments are also searchable.

**TinyURL**

Every page has a unique, short URL displayed at the top of its Page Information page. This makes it easier to send colleague's the URLs for pages with long titles via email, instant message or IRC.
New and Improved Macros

New

- `{excerpt}` allows you to mark a portion of the page as its "excerpt". This has no effect on the page itself, but other macros (such as `{blog-posts}` and `{children}`) can use the excerpt as a short summary of the content of the page.
- `{excerpt-include}` includes one page's excerpt in another page.

Improved

- `{code}` macro supports coloured highlighting for several more languages: JavaScript, ActionScript, XML and SQL.
- `{code}` macro can have its title and border customised in the same way as the `{panel}` macro.
- `{blog-posts}` takes an optional `time` parameter to indicate how far back it should look for blog posts. For example, `{blog-posts:time=7d}` will show all blog-posts within the last seven days.
- `{blog-posts}` takes an optional `content` parameter to change the way the blog-posts are displayed. `content=excerpts` displays excerpts instead of the full content of the blog entry (using the `{excerpt}` macro if available, otherwise extracting the first few hundred characters of the post). `content=titles` displays the entries as a list of titles.
- `{children}` takes an optional `excerpts=true` parameter: if any of the children have an excerpt available, the first line will be displayed in the list.

Improvements

Improvements to the Markup Engine

Many improvements have been made to the Confluence markup parser, fixing niggling inconsistencies, and allowing many more combinations of effects. If you want to produce something like the following, you can:

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
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<tbody>
<tr>
<td>Some code</td>
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<td></td>
<td>```java</td>
</tr>
<tr>
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<td>public static void main(String[] args)</td>
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<tr>
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<td>{</td>
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<tr>
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<td>System.out.println(</td>
</tr>
<tr>
<td></td>
<td>&quot;Hello World&quot;</td>
</tr>
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<td>}</td>
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<tr>
<td>A list</td>
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<tr>
<td></td>
<td>Item 1</td>
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<td>Item 3</td>
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<td>Item 4</td>
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<tr>
<td>A panel</td>
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<tr>
<td></td>
<td>I like cheese</td>
</tr>
<tr>
<td></td>
<td>• Brie</td>
</tr>
<tr>
<td></td>
<td>• Camembert</td>
</tr>
<tr>
<td></td>
<td>• Gruyere</td>
</tr>
<tr>
<td></td>
<td>• Cheddar</td>
</tr>
</tbody>
</table>

You can also center an image using `!image.gif|align=center!`

Improvements to Linking

- You can specify a link title (which appears in the mouse-over tooltip) by adding another section to the link: `[Link Body Text][Page Name][Link Title]`
- `[/foo/bar/baz.html]` will create a relative URL link to `/foo/bar/baz.html` on the same server as Confluence is running
- `file:` URL links work
- UNC-style links: `![SERVER\share\directory\file.doc]` will create a `file://` link to the file on an external share

Note: Some web browsers (specifically Mozilla) consider `file:` URLs to be a security hazard, and do not follow them.

And a whole lot more...

Here's the quick fire version of some of the other improvements we've made in this release:

- You can resize the recent changes lists on the dashboard and space summary pages. This change is persisted in your user
preferences.

- UI state (whether comments or attachments are open, size of recent changes lists) persists between sessions for registered users.
- The maximum attachment size can be configured from the General Configuration administration page.
- Going to http://yoursite.example.com/display now brings up a list of spaces instead of an error page.
- The display of the space summary page is significantly faster.
- Newly created users don't show up on the dashboard recent changes list unless they edit their profiles.
- The word "Confluence" has been moved to the end of page titles instead of the beginning, making them easier to distinguish in tabs and bookmarks.
- There are more ways to navigate to the "recent blog posts" page for a space.
- Removing a user is significantly faster.
- Headings in pages are automatically turned into anchors with the same name.
- Creating a space now creates an index page as well as a home-page.

Notable Bug-fixes

It's hard to know where to start. We've fixed a lot of bugs across the whole application. If you want to know what's been fixed, you're probably best off looking for yourself.

Two areas, however, have been improved enough to deserve special mention.

- **PDF Export** - as mentioned above, we've made the PDF export much, much more reliable than it once was. Where before a page or space may have confused the PDF converter into not working, it should now be able to handle any markup you throw up at it.
- **International characters** - Many issues related to the use of non-ASCII characters in page titles, links, page contents and RSS feeds have been resolved since Confluence 1.0. Our users in non-English-speaking countries should find Confluence a much more pleasant and seamless experience now than they may have before.

Issues Resolved for 1.1

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (208 issues)</th>
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<th>Resolution</th>
</tr>
</thead>
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<tr>
<td><strong>CONF-1067</strong></td>
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<tr>
<td>Documentation for Confluence Integration with Active Directory</td>
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<td><strong>CONF-956</strong></td>
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<td>Rev atlassian-confluence-extras to 1.1 in project.xml</td>
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<td>Upgrade FatCow to be shipped as a 1.1 macro library</td>
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<td>Attachment Improvements</td>
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<td>Syntax Highlighting for Java Script and Action Script</td>
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<td>Choose whether comments get exported or not</td>
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<td>Hide &quot;add comments&quot; text box on print preview</td>
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<td>add title parameter to links ( hrefs )</td>
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<td>Make /display and /display/ aliases for /listsites.action</td>
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<td>Improve links</td>
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<td>Trim length of outgoing links so they don't overflow</td>
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<td>Remember UI state across sessions</td>
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<td>CONF-1286</td>
<td>Make Excel spreadsheets searchable</td>
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<td>Index attachment comment</td>
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<td>Change number of entries in Dashboard:&quot;Recently Updated&quot;</td>
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<td>Only &quot;view page&quot; links should go by page title, rest by page ID</td>
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<td>Allow caption to be specified in (code) macro</td>
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<td>Make PowerPoint presentations searchable</td>
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<td>Allow user macros to be deleted</td>
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<td>Buttons at top and bottom</td>
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<td>Add ability to start a numbered list at a specific starting value</td>
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<td>Allow linking to files on shared network drives</td>
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<td>Make blog display use inline decorators</td>
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<td>Improve error message for trying to remove yourself from admin group</td>
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<td>Edit page and edit blog post links should use page id rather than page title</td>
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<td>CONF-1108</td>
<td>how to create relative site hrefs?</td>
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<td>CONF-1122</td>
<td>User can import pages from arbitrary directories</td>
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<td>Creating a space should create an index page</td>
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<td>State attachment file name on &quot;delete attachment&quot; dialog</td>
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<td>Dashboard recent updates lists irrelevant personal information entities</td>
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<td>CONF-694</td>
<td>Blog Management missing in API</td>
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<td>CONF-879</td>
<td>Customisable Maximum Attachment Size</td>
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<td>Recent updates list for space is very slow</td>
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<td>Rewrite wiki -&gt; link transformation code</td>
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<td>Removing a user is very slow</td>
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<td>CONF-1256</td>
<td>Add brief descriptions for all existing macros</td>
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<td>Unrecognised macro (Weblog) created on start page by snipsnap import</td>
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<td>Improper link processing when CamelCase link style is turned on</td>
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<td>CONF-793</td>
<td>PDF export does not maintain spaces between links</td>
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<td>CONF-963</td>
<td>Emoticon filter kills page-rendering performance</td>
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<td>parent page info lost after choosing a template</td>
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<td>Page(link) creation process &amp; the invalid characters in page title!</td>
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<td>Mixed # and * items do not render correctly</td>
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<td>Viewing profile of a user with no blog posts logs an NPE</td>
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<td>Unable to link to URL's with single quote's as they are escaped</td>
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<td>Text -format email notifications are HTML-formatted</td>
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<tr>
<td>CONF-1042</td>
<td>Export to PDF throws following exception</td>
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<tr>
<td>Issue</td>
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<td>Disabled users still get updates email</td>
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<td>Deactivated users show up in manage users</td>
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<td>Deactivated users should not show up in the add permissions page</td>
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<td>Exporting page with (children:all=true) breaks PDF export</td>
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<td>CONF-997</td>
<td>panel macro display incorrect border</td>
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<td>PDF export removes newlines in {noformat}</td>
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<td>(children:depth=2) can generate a &quot;create page&quot; link</td>
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<td>Can't generate hrefs to IRC</td>
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<td>CONF-1128</td>
<td>Titled links to attachments display filename instead</td>
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<td>{include} macro fails with quotes</td>
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<td>unescaped ampersands kill PDF export</td>
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<td>PDF export throws exception</td>
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<td>ImportExportException during space PDF export</td>
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<td>Export to PDF dies due to ampersand</td>
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<td>New installation on Oracle 9i, errors in log</td>
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<td>List items, panels and code:xml conflict</td>
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<td>Nested lists break PDF export (smart quotes)</td>
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<td>New line code (%) around images not working in 1.0.3</td>
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</tr>
<tr>
<td>CONF-1181</td>
<td>Parse exception in jiraissues</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1167</td>
<td>Backups created on Windows can't restore on Unix.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1148</td>
<td>Some page-related views fail on a renamed page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1152</td>
<td>Duplicate pages with same name</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1174</td>
<td>Shouldn't need to escape things inside {code}</td>
<td>Closed</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>--------</td>
</tr>
<tr>
<td>CONF-1247</td>
<td>Confluence Crash on selecting Profile</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1243</td>
<td>Need a safe way to make &quot;Create&quot; links for high-bit pages</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1233</td>
<td>FileNotFoundException for default-formatting.properties on weblogic restart</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1216</td>
<td>Export space problem</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1219</td>
<td>Confluence: The title you have entered contains invalid characters (...) (question mark)</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1204</td>
<td>Multiple indexes in same DB column</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1325</td>
<td>Wrong URL in daily summary</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1320</td>
<td>Error drawing panel</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1310</td>
<td>Cannot remove page with problematic titles</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1300</td>
<td>Watch this page without being logged-in</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1289</td>
<td>getActiveUsers loads property set for Every Single USe</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1283</td>
<td>Renaming attachments screen is incorrect</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1284</td>
<td>Link in format [my link name</td>
<td>pagename^attachment.ext] shows attachment.ext</td>
</tr>
<tr>
<td>CONF-1270</td>
<td>Form templates don't work any more</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1268</td>
<td>Can not rename page when it has links from a user profile</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-780</td>
<td>Confirming user deactivation takes forever?</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-795</td>
<td>Signing up creates user profile page with Anonymous editor</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-896</td>
<td>Cannot create pages with () in title</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1188</td>
<td>Apache XML-RPC library blows up on high-bit chars</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-818</td>
<td>Hibernate lazy instantiation problem (in Oracle)</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-822</td>
<td>Error adding child pages on Oracle</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-951</td>
<td>page names ending is space are not properly linked</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-942</td>
<td>os_propertyentry table getting out of sync with os_user</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-981</td>
<td>RSS feed has a ) in link</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-971</td>
<td>Stream type cannot be used in batching</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-975</td>
<td>Linking and non-us characters</td>
<td>Closed</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>CONF-1046</td>
<td>Missing text keys</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-993</td>
<td>Lose Parent page when selecting a template</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1018</td>
<td>Wiki outgoing links are incorrectly reported (false positive)</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1010</td>
<td>Space-level custom printable decorator broken</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1012</td>
<td>NPE in Page template wizard</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1011</td>
<td>Export to PDF stack trace</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1709</td>
<td>New Links resolve to different project</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1050</td>
<td>Changing server path does not change path in internal links</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1277</td>
<td>Create page with template may have problems if parent page has non-ASCII title</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-979</td>
<td>Snipsnap Import Fails</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1180</td>
<td>Cannot delete page with accent in title</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1173</td>
<td>Setup steps don't check any more</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1312</td>
<td>Problem linking to an attachment whose name contains a special character</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1170</td>
<td>Log4j.properties not being recognized in weblogic</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-949</td>
<td>Deploy to weblogic as a war causes load resource to fail</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-911</td>
<td>Creating a child page with a template loses parent information</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1126</td>
<td>ImportException caused by ClassCastException when doing Export Space as XML</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1117</td>
<td>Restore from Backup Zip file cannot over 20+M bytes</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1079</td>
<td>Korean language title link problem</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1201</td>
<td>NPE when clicking on the previous versions link when viewing v.1 of a page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1191</td>
<td>Export to XML dies due to ampersand</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1306</td>
<td>IE browser bug on 'page does not exist' page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1319</td>
<td>Save of blog comment breaks when preview is done first</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1316</td>
<td>not permitted to view previous versions of page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1280</td>
<td>Search macro results are borked</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-888</td>
<td>Trackbacks are not sent for shortcut links</td>
<td>Closed</td>
</tr>
</tbody>
</table>
### Release Notes 1.1.1

Confluence 1.1.1 is a maintenance release that fixes some bugs regarding attachments, page links and notifications. Remember, a Confluence license entitles you to a year of upgrades, and this upgrade along with future updates will be free of charge.

**Who should upgrade?**

This release mainly fixes the bugs discovered in our recent 1.1 release. The major issues resolved are listed below, or you can see the full list [here](#). As some of the issues resolved have a significant impact on the user experience of Confluence, we recommend that anyone currently running 1.1 upgrade to 1.1.1.

**Upgrade Procedure**

1. Shut down the Confluence server
2. Back up `confluence/WEB-INF/classes/confluence-init.properties`, and if you have customised it, `confluence/WEB-INF/classes/osuser.xml`
3. Unpack Confluence 1.1.1 in the same location as your existing Confluence installation
4. Restore the two files you backed up in step 1 to the 1.1.1 installation.
5. Start Confluence

To avoid the possibility of data-loss, you should back up your ConfluenceHome directory and your database before upgrading, and perform a full backup from within the application.

**Changes in 1.1.1**

**Attachment fixes**

- Attachment versioning introduced a new table in Confluence that had a column whose name conflicted with some databases like Sybase
- Links to older version of attachments could not be accessed if the webapp was deployed with a context path
- Attaching files that contained ‘+’ and ‘&’ symbols caused certain pages in Confluence to break

These have been fixed in 1.1.1.

**Notification fixes**

Users opting to receive html formatted email received emails with the correct subject but no content. In addition, the "View Changes" link in the daily change email was broken. These are now fixed.

**Email Server fixes**

<table>
<thead>
<tr>
<th>Issue ID</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-964</td>
<td>subsequent ampersands not rendered as entities</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-927</td>
<td>Blogging Varies in Output depending on Link</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1037</td>
<td>Errors with database - can not save in Oracle</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1313</td>
<td>Another strange problem editing pages</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-959</td>
<td>Search results on user with no personal info results in visible velocity crap</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-877</td>
<td>Email search is case-sensitive</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1168</td>
<td>NullPointerException in LinkManager when renaming page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1056</td>
<td>Attachments with irregular characters (commons, pounds, spaces) fail to download</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1278</td>
<td>Tables containing form fields are messed up</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1116</td>
<td>Potential Race condition</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1089</td>
<td>Results of getPermissions are incorrect</td>
<td>Closed</td>
</tr>
</tbody>
</table>

#### Release Notes 1.0.3

Confluence 1.0.3 is a maintenance release that fixes some bugs regarding attachments, page links and notifications. Remember, a Confluence license entitles you to a year of upgrades, and this upgrade along with future updates will be free of charge.

**Who should upgrade?**

This release mainly fixes the bugs discovered in our recent 1.0.2 release. The major issues resolved are listed below, or you can see the full list [here](#). As some of the issues resolved have a significant impact on the user experience of Confluence, we recommend that anyone currently running 1.0.2 upgrade to 1.0.3.

**Upgrade Procedure**

1. Shut down the Confluence server
2. Back up `confluence/WEB-INF/classes/confluence-init.properties`, and if you have customised it, `confluence/WEB-INF/classes/osuser.xml`
3. Unpack Confluence 1.0.3 in the same location as your existing Confluence installation
4. Restore the two files you backed up in step 1 to the 1.0.3 installation.
5. Start Confluence

To avoid the possibility of data-loss, you should back up your ConfluenceHome directory and your database before upgrading, and perform a full backup from within the application.

**Changes in 1.0.3**

**Attachment fixes**

- Attachment versioning introduced a new table in Confluence that had a column whose name conflicted with some databases like Sybase
- Links to older version of attachments could not be accessed if the webapp was deployed with a context path
- Attaching files that contained ‘+’ and ‘&’ symbols caused certain pages in Confluence to break

These have been fixed in 1.0.3.
An upgrade to an email component used in Confluence in 1.1, caused an error to be displayed when users attempted to modify their email server settings. An upgrade has been added in 1.1.1 that will fix this problem to save users from having to perform the fix manually.

**Export to PDF fix**

Spaces labelled with names containing an ' & ' symbol could not be exported to PDF. This has been fixed.

**Wiki Notation fix**

The notation for a horizontal ruler was changed to five dashes (up from 4) in 1.1. This stopped the ruler from showing. This has been changed back in 1.1.1.

**Issues Resolved for 1.1.1**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

**JIRA Issues**

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONF-1510</td>
<td>Mail Queued problem</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1395</td>
<td>Upgrade (children) macro to optionally specify a page</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1391</td>
<td>Old versions of pages appear when you reindex</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1388</td>
<td>.sh files in the standalone release aren't executable</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1387</td>
<td>URL for the non-tip version of an attachment is incorrect</td>
<td>Closed</td>
<td>Duplicate</td>
</tr>
<tr>
<td></td>
<td>CONF-1386</td>
<td>Problem after Upgrade from 1.0.3 to 1.1</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1384</td>
<td>Redirect sometimes faster than previous txn commit</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1382</td>
<td>Notifications are missing content</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1380</td>
<td>Crash at creating new group</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1377</td>
<td>SEVERE Ognl exception in server logs</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1372</td>
<td>Front page should have greyed out icons instead of missing icons</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1368</td>
<td>Links to older versions of attachments don't include the webapp context</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1365</td>
<td>Wrong interaction between include and children macros</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1362</td>
<td>Restore just spins when file access is denied and attachment directories cannot be restored</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1361</td>
<td>Using Ampersand (&amp;) in Space names breaks PDF export</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1358</td>
<td>&quot;VERSION&quot; is a reserved word in a lot of databases (Attachment table)</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1357</td>
<td>Incorrect title is passed when page is created from the link</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1356</td>
<td>Reset Default Colour Scheme</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1353</td>
<td>Links to pages with dashes in title to not render correctly</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
Release Notes 1.1.2

This fixes an upgrade problem in 1.1.1 where users attempting to upgrade from 1.0.x directly to 1.1.1 encountered an "Upgrade Failed" error. Therefore, if you are still using a version older than 1.1, and are planning to upgrade, please upgrade to 1.1.2 to avoid this problem.

If you have already upgraded to 1.1.1 from 1.0.3a and cannot start Confluence due to the upgrade error, simply download 1.1.2 and upgrade to it. This should fix the problem.

If you have already upgraded successfully to 1.1.1 from 1.1 then you may safely ignore this upgrade.

Useful tips when upgrading from 1.0.3a

Upgrading Confluence should be pretty easy: you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

- Users who have enabled external user-management by customising their osuser.xml file will need to read also.
- Users who have used MySQL or Postgresql with Confluence 1.0 should read which explains how to get rid of any extraneous triggers or indexes that might have been created.

Release Notes 1.2

Atlassian is proud to present Confluence 1.2, otherwise known as Swan, to the world. Existing customers who wish to upgrade, or new users who wish to try out Confluence for 30 days can download either the standalone or WAR distributions from the Atlassian website: http://www.atlassian.com/software/confluence

Swan is the second major update to Confluence, and once again all existing customers can upgrade for free, thanks to the provision for one year of free upgrades in your license. You will find that Swan contains significant new features in the areas of user management, search and space browsing, as well as the usual raft of enhancements, bug fixes and things we just couldn’t resist throwing in at the last minute.

In all, 109 issues were resolved between 1.1.2 and 1.2. You can see the full list here: Issues Resolved for 1.2

Looking towards the future, we are going to attempt to increase the frequency of releases. While having one release every three months makes for impressively long release notes, it also means that customers are often left waiting longer than might be necessary for important enhancements or bug-fixes.

Upgrading from 1.1.2

Upgrading Confluence should be pretty easy: you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

You will need to reindex your site after upgrading to enable some of the new site search features. You can do this from the “Rebuild Search Index” link on the Administration Console.

Site administrators upgrading from 1.1.2 or earlier should take particular note of the changes to global and space permissions. Confluence should automatically upgrade old permissions to the new scheme when upgrading from or importing data from earlier versions, but it is a good idea to check that your spaces are still secure and accessible after the upgrade, just in case.

Upgrading from 1.0.3a

Users upgrading directly from 1.0.3a should also read the Nymboida Release Notes for caveats regarding the 1.0 -> 1.1 upgrade.

Contents

1. New Features
2. Improvements
3. Notable Bug-fixes
See also: Issues Resolved for 1.1

New Features

Page List Views

The old "list pages" screen has been enhanced, almost to the point of being unrecognisable. In its place, we now offer three ways to browse the contents of a space.

The **Alphabetical View** looks like the "list pages" screen from 1.1 and earlier, but it has been enhanced to allow you to find pages quickly by the first letter of their title.

The **Directory View** presents the contents of a space as a tree, allowing you to drill down the hierarchy of parent and child pages (You will need Javascript turned on to use this view).

The **Search View** presents Swan's enhanced search interface, already focused on the space you are looking at.

Image Thumbnails and Thumbnail Galleries

You can now display a thumbnail of any image attached to a page. Clicking on the thumbnail will pop up a window containing the full-sized image. For example, the nice picture of the waterfall from my holiday in California was generated by the following wiki-markup.

```
!waterfall.jpg|align=right thumbnail!
```

In addition, the `{gallery}` macro will create a thumbnail gallery of all the images that are attached to the page the macro is included in. You can see an example of this macro in action here: Thumbnail and Gallery Example.

The maximum sizes for thumbnails are configured in the General Configuration section of the Administrative Console.

Threaded Comments

Bowing to public demand, we have added the ability to arrange comments by thread: users may respond to a particular comment, and the comments will be arranged in accordance with who responded to what.

The default is still for comments to be presented as a flat list, but you can enable comment-threading in the General Configuration section of the Administrative Console.

Improvements

Enhanced Search
The site-search functionality of Confluence has been enhanced, both subtly behind the scenes, and quite obviously in front of them.

Behind the scenes, we now index more information such as attachment comments and filenames. We have improved the indexing of PowerPoint presentations so that more text is extracted from the PowerPoint file. We have also tweaked the ranking algorithms behind the search so that you are more likely to find the page (space, comment, blog post, attachment, user...) you are looking for.

More obviously, we have given the user a lot more control over searching with an intuitive user interface that allows you to limit searches by space, type of content, or date last modified, and to group search results by type and space.

The {search} macro has also been updated to take advantage of the new search features (the options are described more fully in the notation guide linked from Confluence's edit page):

```
{search:query=Confluence|maxLimit=5|spacekey=DISC|type=page}
```

### New Permissions Interface

#### Groups

These are the permissions currently assigned to groups for this space.

<table>
<thead>
<tr>
<th>Group</th>
<th>Make comments</th>
<th>Create &amp; edit pages</th>
<th>Administrate space</th>
</tr>
</thead>
<tbody>
<tr>
<td>atlassian-staff</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>confluence-admins</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>confluence-users</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

Grant browse permission to atlassian-developers ✗ OK

Two of the biggest issues users have been having with permissions in Confluence were:

- The interface for setting permissions was confusing.
- It was hard to keep sites that allowed anonymous access below the workgroup license 25-user limit, especially if they used external user management.

Both of these issues have been fixed in Swan, but it has involved a slight change in the way permissions are checked. This should not be a
problem for new Confluence users: the new system is easier to use than the old. However, if you are upgrading from 1.1.2 or earlier, you should read this document to see what's different.

And a whole lot more...

Here’s the quick fire version of some of the other improvements we’ve made in this release:

- The "double-click to edit" feature has been removed.
- Blog views now come with a monthly calendar showing nearby posts.
- Macro libraries can now include images, or any other content the macro needs to serve over the web: look out for new example code in the [macro documentation] soon.
- Users can set their profile page to be their site homepage.
- You can delete all referrer links that match your exclusion list (in General Configuration), to rid the site of referrer spam.
- The site’s administrative, search and editing pages are served with robots exclusion meta tags so that only the site’s main content will be indexed by well-behaved search engines.
- Restoring backups should be significantly faster for installations with many users.
- Administrators can choose to restore backups from the filesystem instead of uploading them (important if your backup is quite large).
- Confluence now serves files with a proper Content-Length header, so browsers can display the download accurately.
- CSS stylesheets are hidden in emails so they don't mess up Lotus Notes.
- Export and backup filenames use a neater yyyymmdd date format.

Notable Bug-fixes

- Exports created on Windows can now be imported on Unix-like operating systems without having to fix the path separators.
- Hyphens in page headings or anchors will no longer render strangely.
- Restoring a backup during setup now properly generates the search indexes.
- Page "short links" now respect the configured site URL, regardless of which URL the user is accessing the site from.
- Strange Powerpoint files no longer choke the indexer.
- Users with Admin privileges can now see the link to the Administration Console without being in the 'confluence-administrators' superuser group.
- Space administrators can modify space templates without having global administrator privileges.
- User macros are now lower-cased by default.
- It is now possible to change the case of a page title by renaming the page.

Issues Resolved for 1.2

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (117 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONF-1264</td>
<td>BOB: Run functional tests against Weblogic</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-1442</td>
<td>Use atlassian core's thread appender instead of confluence's</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-1393</td>
<td>Upgrade libraries</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-1130</td>
<td>Allow import/restore from server local filesystem</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-785</td>
<td>Gallery Page Macro</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-784</td>
<td>Inline image attachment as thumbnail</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-765</td>
<td>Calendar for blog posts</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-1497</td>
<td>Option to scope searching</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-1539</td>
<td>&quot;View in hierarchy&quot; link from a page</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-1695</td>
<td>Improve threaded comments L&amp;F</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-1668</td>
<td>Improve Administration Setup Paths page</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-1490</td>
<td>Add &quot;Hide Comments&quot; link when comments are shown</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-1529</td>
<td>Incorrect number of licensed users displayed</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-817</td>
<td>Revisit UI for adding permissions</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-1676</td>
<td>Email template fix for Lotus Notes 6.5</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-1477</td>
<td>Change backup filenames to 2004-06-29 format</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>

Zipped exports created on a Windows Confluence instance are not
<table>
<thead>
<tr>
<th>CONF-ID</th>
<th>Description</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-1658</td>
<td>platform-independent</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1163</td>
<td>Put NOINDEX NOARCHIVE tags on administrative and search actions</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-665</td>
<td>Warn if adding a space permission to user without USECONFLUENCE permission</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-886</td>
<td>Hierarchy view as proper treeview</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-809</td>
<td>Scope-base searches (on-site and via {search} macro)!</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1196</td>
<td>Add App Specific Exceptions to Remote API</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1239</td>
<td>Ability to clear Referrers</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1408</td>
<td>Restoration process take a long time updating indexes</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1376</td>
<td>Allow macro libraries to include web-served resources</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1491</td>
<td>Double-click to edit page feature unintuitive</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1487</td>
<td>Alphabetical, Directory and Search views for page listing</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-957</td>
<td>Quick Search should notice if you've typed in a page title</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-985</td>
<td>Threaded Comments</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-480</td>
<td>Alphabet links in paged search results / page links</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1260</td>
<td>DHTML spaces control</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-961</td>
<td>Add &quot;my profile&quot; to the list of a user's available homepages</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1359</td>
<td>Improve search</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1447</td>
<td>Index attachment names</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1588</td>
<td>FileServerServlet doesn't serve file sizes</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1564</td>
<td>ClobStringType requires active transaction synchronization</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1682</td>
<td>Space keys are alphanumeric, not ASCII</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1692</td>
<td>Update Page fails in MailNotificationQueueItem.createFromTemplateFile</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1617</td>
<td>Couldn't restore directory from backup error</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1486</td>
<td>i18n title shows up as hashes when exporting to PDF</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1392</td>
<td>Import on initial setup doesn't index</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1524</td>
<td>Hyphen in Blog text causes corruption.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1501</td>
<td>Rebuilding Search Index take forever</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1423</td>
<td>View mail servers doesn't show From address, but Edit operation does.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1612</td>
<td>Brackets &quot;(javafx)&quot; break rendering of headings</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1508</td>
<td>Very long headings render bad anchor tag</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1292</td>
<td>Mail queue not updated with queued notification items</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1536</td>
<td>template.not.found - i18n message missing</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1548</td>
<td>User History page with velocity bug?</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1419</td>
<td>Dates in a heading are not rendered correctly</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1045</td>
<td>Exports performed on Windows may have \ as path separator in zip</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1659</td>
<td>Anchor links don't work in exported PDF's</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1666</td>
<td>Deleting a group should delete that group's permissions</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1426</td>
<td>Please remove the double-click-starts-editing feature</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1471</td>
<td>Broken links in 'Confluence Notation Guide'</td>
<td>Closed</td>
</tr>
<tr>
<td>Conf Number</td>
<td>Title</td>
<td>Status</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>CONF-1701</td>
<td>Gallery macro prints $thumb.attachment.comment under all thumbnails</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1696</td>
<td>Must-fixes for search</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1430</td>
<td>Children macro choking on dashes in page names</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1690</td>
<td>Bad URL for &quot;edit space homepage&quot; in space created screen</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1121</td>
<td>Changing a word in a page shows wrong diff</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1684</td>
<td>Attachment search fails when limited by space</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1582</td>
<td>Links not rendered correctly using Remote render</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1440</td>
<td>Confluence still doesn't clean the temp directory</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1454</td>
<td>h3 element rendering junk</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1441</td>
<td>Special Characters in headers do not render properly</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1407</td>
<td>Headers with Certain Characters</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1599</td>
<td>Children macro chokes on minus characters</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1630</td>
<td>View space permission description wrongly says that a user can edit a page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1519</td>
<td>page anchor links break</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1459</td>
<td>Special characters in &quot;search&quot; result in various problems</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1550</td>
<td>Page Information: Incorrect Short URL if webapp context is not &quot;/&quot;</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1146</td>
<td>Use of quotes in page name brings issues with it</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1326</td>
<td>Can't change mail format of daily summary messages.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1269</td>
<td>Export space (html) fails, if attached image missing</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1699</td>
<td>Entering &quot;***&quot; as search string causes error.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1710</td>
<td>Upgrade failed: Can't call commit when autocommit=true</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1663</td>
<td>A small error in the</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1350</td>
<td>Random PermissionCheckDispatcher crashes when viewing pages</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1417</td>
<td>jiraissues macro ignores the first entry in the columns parameter</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1418</td>
<td>Spaces in File links not preserved on Wiki Export</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1401</td>
<td>Wrong document tree in exported PDF files</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1403</td>
<td>Date formats of jiraissues macro</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1439</td>
<td>TXT daily summary generate raw HTML</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1432</td>
<td>InfrastructureException after update</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1452</td>
<td>rename page bug</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1445</td>
<td>Icons don't get exported in PDFs</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1468</td>
<td>Display of paragraphs in comment blocks not consistent</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1480</td>
<td>URL returned from search is incorrect for attachments</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1492</td>
<td>&quot;short link&quot; not respecting site URL</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1507</td>
<td>Non-administrator users can perform some admin tasks</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1533</td>
<td>PowerPoint search not working (example included)</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1535</td>
<td>Nullpointer exception on updating a page that is being watched by a new user</td>
<td>Closed</td>
</tr>
</tbody>
</table>
Permissions Changes in 1.2

For Swan, changes were made to the way Confluence manages and checks permissions. This document is a guide for anyone migrating from Confluence 1.1.2 or earlier describing why the changes were made, and what this means to existing Confluence installations.

Why Change?

There were two goals behind changing permissions in Confluence:

1. Fix a significant problem whereby users with external user management enabled could not also enable Confluence anonymous access without blowing out their 25-user workgroup license.
2. Make the user interface for assigning and viewing permissions easier to use and understand.

What Changed?

"Anyone" User Removed

In Confluence 1.1.3, there was an "Anyone" user, who represented anyone using the system, whether logged in or not.

This user was the source of the licensing problem, and no longer exists in Confluence 1.2

Anonymous Permissions Added

Confluence 1.2 has explicit permissions for anonymous users. These permissions are only granted to users who are not logged in.

There is nothing stopping an administrator granting some permission to anonymous users, but not granting it to logged-in users. This results in the slightly bizarre possibility that a user might be able to do more before logging in than they can after. Luckily, this is a pretty easy situation for administrators to avoid.
Enabling anonymous access has no effect on Confluence's user count for licensing purposes.

Guard Permissions Added

The roles of the "Use Confluence" and "View Space" permissions have been expanded so that now they are required permissions before a user or group can be granted any more rights.

Before a user has access to anything in the Confluence server, they must first have "Use Confluence" permission, and likewise before a user has access of any kind to a space, they must first have the "View Space" permission.

For licensing purposes, your number of users is equivalent to the number of non-anonymous users with the "Use Confluence" guard permission.

Migrating from 1.1 to 1.2

Migrating Automatically

When you upgrade from Confluence 1.1, or when you restore a backup created in 1.1 into Confluence 1.2, an upgrade task will run to automatically migrate your permissions to the new scheme, while keeping them consistent with your 1.1 security settings. The task will make the following changes:

- All "Anyone" permissions will be converted into two separate permissions: one for Anonymous access, and one for the confluence-users group. (If the confluence-users group does not exist, this step will be skipped)
- Any user or group with some global or space permission will also be granted the equivalent guard permission.

After starting up with the new version of Confluence, we suggest that you check that the permissions have migrated successfully. While we have tested the migration code, maintaining your site's security is important enough to warrant a double-check, just in case.

Migrating Manually

If the automatic migration does not complete successfully, which would most likely happen if you have removed the "confluence-users" group, you will need to perform the above steps manually, through the user administration interface.

Release Notes 1.2.1

Confluence 1.2.1 is a maintenance release that fixes some bugs that users may have encountered using Confluence 1.2. It incorporates improvements to performance for large Confluence installations, and fixes bugs related to the remote API, over-use of disk space, and a few annoying errors users were experiencing when setting up a new Confluence instance.

1.2.1 is a free upgrade for all existing Confluence customers.

Who should upgrade?

The issues resolved below are all either fixes to problems that have effected small numbers of users, or improve areas of Confluence that may not be used in your installation. As such, we recommend you read through the release notes and decide whether this upgrade is necessary.

If 1.2 is working fine, and none of the issues below are bothering you, there is no need to upgrade.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.2, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.1.2 or earlier, be sure to read the upgrade instructions in the Confluence 1.2 release notes.

Changes in 1.2.1

See also: Issues Resolved for 1.2.1

Remote API Fixes

- getBlogEntries() will no longer erroneously return SQL Timestamps instead of date objects — CONF-1756
- getPage() will now successfully retrieve a previous page version — CONF-1721
- renderContent() can now successfully render a page containing the {blog-posts} macro — CONF-1717

Setup Fixes

- Some users were encountering the following error during setup: "Unable to store Trigger with name: 'backupTrigger' and group: 'DEFAULT', because one already exists with this identification." This should no longer occur — CONF-1760
- Some users were encountering a NullPointerException in org.apache.lucene.store.FSDirectory.create() during setup when connecting to an external datasource. This should no longer occur — CONF-1767

Performance and Efficiency Fixes

- Installations with large search indexes will no longer experience a performance degradation when saving content — CONF-1759
- Backups will no longer leave a redundant exploded copy of the files being backed up in the temp directory — CONF-1752
- Deleting a space was not deleting its attachments from the confluence home directory. This is now fixed — CONF-1765
**Other Issues Resolved**

- Thumbnails are now stored in their own directory, so they won't be included unnecessarily in backups — CONF-1785

**Note**

Unless you are running JDK 5.0 (which we do not recommend as it is still in pre-release), this improvement will only be visible if you are running Confluence on Mac OS X

- URLs longer than 255 characters will no longer cause an exception when saving a page — CONF-1743
- Pages with titles containing quotes no longer break PDF exports — CONF-1719
- Internet Explorer 6 SP2 will no longer corrupt zip-files downloaded from Confluence — CONF-1669

**Issues Resolved for 1.2.1**

Errors were reported by the JIRA trusted connection.

- APPUNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (19 issues)</th>
</tr>
</thead>
<tbody>
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<tr>
<td><img src="image" alt="CONF-1785" /></td>
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<td><img src="image" alt="CONF-1825" /></td>
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<tr>
<td><img src="image" alt="CONF-1759" /></td>
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<tr>
<td><img src="image" alt="CONF-1669" /></td>
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<tr>
<td><img src="image" alt="CONF-1775" /></td>
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<tr>
<td><img src="image" alt="CONF-1476" /></td>
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<tr>
<td><img src="image" alt="CONF-1743" /></td>
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<tr>
<td><img src="image" alt="CONF-1719" /></td>
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<tr>
<td><img src="image" alt="CONF-1765" /></td>
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<tr>
<td><img src="image" alt="CONF-1760" /></td>
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<tr>
<td><img src="image" alt="CONF-1717" /></td>
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<tr>
<td><img src="image" alt="CONF-1592" /></td>
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<tr>
<td><img src="image" alt="CONF-1721" /></td>
</tr>
<tr>
<td><img src="image" alt="CONF-1767" /></td>
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<tr>
<td><img src="image" alt="CONF-1729" /></td>
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<tr>
<td><img src="image" alt="CONF-1725" /></td>
</tr>
<tr>
<td><img src="image" alt="CONF-1756" /></td>
</tr>
</tbody>
</table>
Release Notes 1.2.2

Confluence 1.2.2 is a maintenance release that fixes some bugs that users may have encountered using Confluence 1.2 and 1.2.1. It fixes problems with attachment downloading, text file imports and text-only emails.

1.2.2 is a free upgrade for all existing Confluence customers.

Who should upgrade?

Confluence 1.2.2 includes a fix for CONF-1810. This bug will cause serious problems for anyone who attaches multiple versions of the same file to a Confluence page, corrupting subsequent downloads.

As such, Confluence 1.2.2 is a recommended upgrade for anyone running 1.2 or 1.2.1.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.2 or 1.2.1, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.1.2 or earlier, be sure to read the upgrade instructions in the Confluence 1.2 release notes.

Changes in 1.2.2

See also: Issues Resolved for 1.2.2

- The correct file size will now be stored for multiple versions of the same attachment, fixing a serious download corruption bug – CONF-1810
- Long [excerpt] blocks no longer overrun their database field – CONF-1705
- The (code) macro will no longer garble XML – CONF-1829
- Page diffs now escape HTML tags correctly – CONF-1830
- Fixed Postgresql error when you try to import text files that contain the nul (\0) character – CONF-1739
- "Next" link at the bottom of the alphabetical page listing now works – CONF-1797
- Text-formatted Confluence daily emails are now sent as text – CONF-1724
- The search input box on the "404 Not Found" page has been fixed – CONF-1800

Issues Resolved for 1.2.2

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]
Release Notes 1.2.3

Confluence 1.2.3 is a maintenance release that fixes some bugs that users may have encountered using the 1.2 series of Confluence. It fixes problems with Oracle support on Weblogic, thumbnail display, errors moving pages between spaces.

1.2.2 is a free upgrade for all existing Confluence customers.

Who should upgrade?

The issues resolved below are all either fixes to problems that have effected small numbers of users, or improve areas of Confluence that may not be used in your installation. As such, we recommend you read through the release notes and decide whether this upgrade is necessary.

Of particular note should be CONF-1911 which might effect customers trying to use Confluence with Oracle under Weblogic, and CONF-1914, a security issue where users may determine the names of attachments that they can not access.

If Confluence 1.2.2 is working fine for you, feel free to stick with it.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.2 or higher, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.1.2 or earlier, be sure to read the upgrade instructions in the Confluence 1.2 release notes.

Changes in 1.2.3

See also: Issues Resolved for 1.2.3

- Oracle LOB handler now works correctly under Weblogic – CONF-1911
- Attachments are no longer listed in search results if the user is not permitted to download them – CONF-1914
- Tomcat no longer hijacks Confluence’s logging – CONF-1934
- Incoming page links no longer listed multiple times – CONF-1928
- Comments in daily update report are now linked properly – CONF-1904
- Thumbnails and the gallery macro no longer draw images with width and height of 0 – CONF-1861
- Fixed a system error moving pages between spaces when they are linked to from a comment – CONF-1851
- Fixed a system error when removing an attachment – CONF-1861

Issues Resolved for 1.2.3

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (28 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
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<td><img src="image.png" alt="image" /></td>
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<td><img src="image.png" alt="image" /></td>
</tr>
</tbody>
</table>
Release Notes 1.3

Atlassian Software is proud to present Confluence 1.3 (otherwise known as Murrumbidgee). Existing customers who wish to upgrade, or new users who wish to try out Confluence for 30 days can download either the standalone or WAR distributions from the Atlassian website: http://www.atlassian.com/software/confluence

Murrumbidgee is the third major update to Confluence (in less than nine months!), and once again we've raised the bar of what you should expect from a professional wiki. Confluence 1.3 looks better, performs better, installs more easily and does far more than it ever has before.

A big thanks to everyone who reported bugs, and offered suggestions over the last few months, especially everyone who helped by trying out our Development Releases.

Upgrading from 1.2.3

Upgrading Confluence should be pretty easy.  **We strongly recommend that you backup your confluence.home directory and database before upgrading!**

You will need to reindex your site after upgrading to enable some of the new site search features. You can do this from the "Rebuild Search Index" link on the Administration Console.

Also, we've added a bunch of space-level permissions since 1.2. While our upgrade process should make sure everyone has the same permissions after the upgrade as they did before, it's a good idea to check to make sure nothing has been missed.

Upgrading from 1.1.2 or Earlier

Users upgrading from an earlier version of Confluence should check the release-notes of the other major Confluence releases:

- Release Notes 1.2
- Release Notes 1.1

Contents

- New Features
- New Macros
- Improvements
- Notable Bug-fixes
See also: Issues Resolved for 1.3

New Features

Many of the features added to Confluence 1.3 are of interest only to site administrators. To get an idea of what's changed from the perspective of a user, you should read What's New in 1.3

Mail Archiving

Confluence is a collaboration tool. When communication happens through Confluence, it gets archived, indexed and interlinked so the whole team can benefit from the information. But what happens to communication that happens via email? At best it gets hidden away in the corner of one team member's inbox, at worst it just falls into nowhere.

Now, you can put that mail into Confluence as well.

Each Confluence space has a mail archive. You can import mail directly by uploading an mbox file, or you can have Confluence regularly poll a POP mailbox for new mail. Once mail is imported into Confluence it can be browsed chronologically or by thread, and searched using Confluence's powerful full-text search functionality.

The threading and searching functionalities within Confluence are more powerful, and more useable than most dedicated mail archives that you will find online! For more information about Confluence's mail support, read the Mail Archiving FAQ.

Themes
It is now possible to package a particular Confluence look and feel into a theme. Themes can be dropped into a Confluence installation, after which they will be available for global or space administrators to customise the look and feel of the site.

Themes are built using the new plugin architecture that has been built into Confluence: for more details on how to create your own theme, see Theme Plugins.

The Trash Can

One of the most popular feature-requests, it is now possible to undelete pages, mail and blog-posts. When content is deleted from a space it is moved to that space's trash can. Space administrators can restore deleted pages, or consign them to oblivion.

More Granular Space Permissions

Another of our most popular feature-requests, we've divided up the space permissions so administrators have more control over what users can and can not do.

New Emoticons
Because you can never have enough neat-looking graphics.

### Macros

- (note), (information), (warning) and (tip) macros let you add coloured notes to your page.
- The (section) and (column) macros give you an alternative to wiki-markup tables.
- The (jiraportlet) macro allows you to embed a JIRA 3 portlet into a Confluence page.
- The (excerpt) macro has an optional `hidden=true` parameter to hide the contents of the excerpt within the page.
- The (excerpt-include) macro has an optional `nopanel=true` parameter to display the excerpt without any decoration.
- The (jiraiissues) macro has an optional `count=true` parameter to display only the number of issues found, not the details of those issues. It also has an optional `cache=false` parameter to ensure that a list of Jira issues will refresh on each request.
- The (blog-posts) macro consistently displays blog-posts in reverse chronological order.
- The (search) macro can be limited to particular types of content.
- The (notation guide) has been reorganised to be more friendly to users who don't know what a macro is.

### Improvements

#### Referrer Management

For public sites, referrer management has been vastly improved in Confluence 1.3, with a new management screen, the ability to block unwanted referrers right from where they are displayed, and the ability to turn off referrer tracking with a single click.

#### Setup Wizard

The Confluence setup wizard has been rewritten from the ground up. We've made it task-oriented, and stripped it back to just the stuff you need to get Confluence running. The result is a much smoother, much faster installation.

#### User Interface

We've made a lot of improvements to Confluence's user interface. You'll notice some improvements on the Dashboard, making it easier to see exactly what's changed recently. You'll notice some huge changes to the space summary/space administration section of the site.

#### Backups
• You can now **exclude attached files from your backups**. Of course, this means you have to back up your attachment directory separately, but if you already have a good backup regime for your filesystem (and can thus restore attachments separately), it means your Confluence data backups will take a lot less space.

• We now **include important system configuration in your backups**, so that when you restore a site from backup, it will work the same way as it did when you backed it up.

**Indexing**

We have improved the way we index content within Confluence, which means your searches are even more likely to find the right result.

If the primary language of your Confluence site is not English, you should change the "Indexing Language" preference in Confluence's General Configuration.

**Site Performance**

We've identified a number of places that were slowing down the performance of Confluence sites, from the dashboard to the spaces list page, to the search indexer, to the storing of referrers. Confluence should now perform faster than ever.

**Also...**

• Pages in an export are now in alphabetical, not creation order.

• The remote API can be accessed by anonymous users (this must be turned on in General Configuration)

• When previewing a page, you can continue editing without having to go back to the edit page

• You can link to anything in Confluence if you know its ID in the database (currently this is how you must link directly to mail) using the following link format: `[$1234]`

• You can link to anything relative to the root of the Confluence installation (useful for pointing to parts of the site that can't otherwise be linked) using three leading slashes: `[/pages/editpage.action?pageId=1234]`

• A whole lot more that we've forgotten...

**Notable Bug Fixes**

We resolved a lot of issues between Confluence 1.2.3 and Confluence 1.3. The best way to see what we've fixed is to ask JIRA, the world's best issue-tracker: [Issues Resolved for 1.3](http://example.com/issue-tracker)

**Confluence Presentation**

This presentation was relevant to Confluence 1.3, so it was rather outdated.

We have removed it from this documentation space. You can find a copy of it [here](http://example.com/confluence-presentation).

**Issues Resolved for 1.3**

Errors were reported by the JIRA trusted connection.

• `APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]`

<table>
<thead>
<tr>
<th>JIRA Issues (200 issues)</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-2241 1.3 Release Tasks</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1953 Library upgrade: TextMining</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1948 Library upgrade: HTTP Client</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1952 Library upgrade: WebWork</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-2032 Library upgrade: EHCache</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-2048 Library upgrade: Hibernate 2.1.6</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-2022 Improve unit testing on attachments being exported</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1949 Library upgrade: Spring</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>Ticket Number</td>
<td>Description</td>
<td>State</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>CONF-1954</td>
<td>Library upgrade: PDFBox</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1878</td>
<td>Plugin-ify Confluence macros</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1877</td>
<td>Incorporate atlassian-plugins module into Confluence</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2185</td>
<td>Task Macro should be installed in default build of Conf.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1955</td>
<td>Library upgrade: Lucene</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1951</td>
<td>Library upgrade: Sitemesh upgrade</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1950</td>
<td>Library upgrade: Seraph</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1964</td>
<td>Make the capitalisation of TrackBack consistent</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1958</td>
<td>EDITSPACE permission is confusingly named now that it's really &quot;create page&quot;</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2138</td>
<td>Confluence has performance issue that the frontend Apache Proxy did not get response sometimes.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2292</td>
<td>revise 'Setting up Confluence'</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2286</td>
<td>back out fix on ConfluenceAuthenticate which forced to lower case</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2244</td>
<td>Get DamageControl UATs running again</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2267</td>
<td>Document Blog-entry macro</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2248</td>
<td>Remove paths from admin</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2061</td>
<td>Create demo content for first-time users</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2280</td>
<td>Test FatCow on 1.3 final</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2243</td>
<td>Merge 1_2_STABLE into HEAD</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2242</td>
<td>Remove 1.2.4 from JIRA. Check issues fixed in HEAD.</td>
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<tr>
<td>CONF-2069</td>
<td>Improve final setup screen</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2149</td>
<td>Add not-yet-configured warnings to confluence admin console</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2013</td>
<td>Search Interface for Mail</td>
<td>Resolved</td>
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<tr>
<td>CONF-2096</td>
<td>Link to single message</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2053</td>
<td>Add delete mail functionality</td>
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<tr>
<td>CONF-2119</td>
<td>Add Mail Operations menu</td>
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</tr>
<tr>
<td>CONF-2052</td>
<td>Add delete mail permission</td>
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<td>Ticket</td>
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<tr>
<td>CONF-2055</td>
<td>Notify of unviewed mail matches in search</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2051</td>
<td>Index messageid column in database</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2054</td>
<td>Add Mail icon to spaces list on dashboard</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2057</td>
<td>Display attachments in view mail page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2012</td>
<td>View Single Mail</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2018</td>
<td>Test mail accounts</td>
<td>Closed</td>
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<tr>
<td>CONF-1974</td>
<td>POP mailbox polling</td>
<td>Closed</td>
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<tr>
<td>CONF-2058</td>
<td>Database checking added to setup</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2068</td>
<td>Data setup - demo, no data, import</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2014</td>
<td>Mail Browser</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2024</td>
<td>Remove mails from &quot;recent changes&quot; lists</td>
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<tr>
<td>CONF-1972</td>
<td>Mail domain objects/manager/dao</td>
<td>Resolved</td>
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<tr>
<td>CONF-2015</td>
<td>Extract Attachments</td>
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</tr>
<tr>
<td>CONF-1976</td>
<td>Mail indexing</td>
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<tr>
<td>CONF-2288</td>
<td>Upgrade wiki.theserverside.com and remove referrers</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2278</td>
<td>Link API docs from everywhere</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2249</td>
<td>Base URL admin</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2255</td>
<td>Check unit tests are running 100%</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2247</td>
<td>Remove dummy.gif</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2226</td>
<td>Add JIRA portlet macro</td>
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<td>CONF-2016</td>
<td>Mail Account Management</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2269</td>
<td>Document gallery macro</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2067</td>
<td>Remove paths configuration from setup</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1894</td>
<td>Confluence needs a note macro</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2212</td>
<td>Add preference to disable remote API</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1610</td>
<td>Count {include:Page} as a link to &quot;Page&quot;</td>
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<tr>
<td>Ticket</td>
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<tr>
<td>CONF-2110</td>
<td>Link to any content object by ID</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2029</td>
<td>Lucene indexing queue</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2059</td>
<td>Threading and Related Mail</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1375</td>
<td>How about more complex permission?</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1856</td>
<td>Decorator Themes</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1870</td>
<td>Access key for edit</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1586</td>
<td>Allow referrers to be turned off</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1779</td>
<td>Make exporting a permission</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1136</td>
<td>Radical idea, archive external email in Confluence</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-851</td>
<td>Deleted Pages - Need a 'recycle bin'</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1871</td>
<td>Include default demo space as a new install option</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1654</td>
<td>Ability to add extra colour settings to a colour scheme</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2256</td>
<td>Layout macros to enable people to create complex page layouts</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2224</td>
<td>Improve JIRA macros</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2220</td>
<td>Self-documenting macros</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2195</td>
<td>Create system link capability</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1992</td>
<td>Retrieve page by space key and page title</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1965</td>
<td>Confluence Mail Archive</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2221</td>
<td>Limit remote API search by space/date/content types</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1631</td>
<td>Page Edition / Preview should be in one</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2271</td>
<td>Add &quot;nopanel&quot; parameter to excerpt-include macro</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2028</td>
<td>Space summary recently updated panel should show new comments, blogs, etc</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2139</td>
<td>Make full thread view not a popup</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2270</td>
<td>Add &quot;hidden&quot; parameter to excerpt macro</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2210</td>
<td>Fix Setup UI for select db connection type</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2211</td>
<td>Improve referrer links performance</td>
<td>Resolved</td>
</tr>
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<td>Ticket</td>
<td>Description</td>
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</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td>CONF-1999</td>
<td>Move &quot;Start watching this space&quot; next to the RSS icon - and make it just an icon (use the tooltip for description)</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1793</td>
<td>Handle things better if we get an error loading confluence.cfg.xml</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1639</td>
<td>Anonymous SOAP and XML-RPC access</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2049</td>
<td>Setup Wizard Improvements</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2201</td>
<td>Remove space link in spacelist.vm has 'Add Page' title text on the img</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2193</td>
<td>Mail archive graphic and description should be placed on initial Content pane in Space Summary</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2194</td>
<td>Index macro to display excerpts</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2209</td>
<td>Ensure that setup UI is consistent</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1261</td>
<td>Simplify the setup wizard</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2114</td>
<td>Sort home-page drop down in edit space alphabetically</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1237</td>
<td>Hide unsupported databases in setup pick-list.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2125</td>
<td>Search performance improvements</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2172</td>
<td>Remove &quot;pool size&quot; setting from database setup</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1435</td>
<td>Allow attachments to be backed up separately</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2050</td>
<td>Improve Mail for DR4</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2109</td>
<td>Display relative times in &quot;recent updates&quot; lists</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2004</td>
<td>Change &quot;Remove Blog Post&quot; icon to trashcan icon used for &quot;Remove Page&quot;</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2019</td>
<td>jiraissue macro now takes a cache='on' or 'off' argument</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1605</td>
<td>Long Blog titles dont wrap very well</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1946</td>
<td>Make help icon point to manual on c.a.c</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1865</td>
<td>Provide navigation options for screen after creating a new template</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1330</td>
<td>Make blog-posting a separate permission</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1764</td>
<td>Improve UI for permissions editing</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1674</td>
<td>Add JIRA-style user-picker component</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1891</td>
<td>Permissions Screen suggestion</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1928</td>
<td>Only list a referring page once</td>
<td>Closed</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>CONF-1864</td>
<td>Don't escape shortcut links if no parameters</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1562</td>
<td>Separate Space Summary and Space Administration</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1176</td>
<td>When moving an page, it should not select the first project</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1700</td>
<td>Calendar L&amp;F not integrated with the rest of Confluence</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1740</td>
<td>When text file import fails, report name of file that died.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1858</td>
<td>Noisy dashboard 1</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1551</td>
<td>Editing a blog post is a little difficult to find. Not intuitive.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2245</td>
<td>Allow macros to choose which page documentation occurs on</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2223</td>
<td>Improve mail excerpting slightly</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2151</td>
<td>Indicate where a thread continues back or forward in mail view</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2148</td>
<td>'browse templates' in admin. screen breaks with the admin decorator</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2000</td>
<td>Make all of &quot;Create a new blog post&quot; url-ified</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1221</td>
<td>When previewing a page, display edit box below the preview</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1052</td>
<td>Remove &quot;Path&quot; section of admin config</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2160</td>
<td>Speed up spaces list page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1720</td>
<td>Blog calendar has no Next/Previous month links</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1513</td>
<td>Help for user macros in interface</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1862</td>
<td>Add the (?) emoticon</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1578</td>
<td>Remove/Delete Space should be on &quot;Spaces&quot; page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2197</td>
<td>Reorganise Notation Guide</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2182</td>
<td>Improve performance of getSpace(key)</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2094</td>
<td>excerpt on mail search result contains return path</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2044</td>
<td>Hook email address hiding preference into mail display</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2046</td>
<td>Exclude attachments from backup</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1661</td>
<td>NPE using TaskList Macro</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2756</td>
<td>The backup that doesn't!</td>
<td>Closed</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>CONF-2186</td>
<td>&amp;s break links in Confluence</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1687</td>
<td>(blog-posts) wrong sort order when using &quot;time&quot; parameter</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1787</td>
<td>embedded tab characters break {{code}} filter</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1947</td>
<td>cannot remove myself from list</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1919</td>
<td>Tasklist Macro renders as null in preview mode</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2020</td>
<td>Confluence won't allow Groups with upper case letter names</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1966</td>
<td>export 32 pixel gif missing on Space Summary - Content</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1789</td>
<td>(content-by-user) Macro shows items in Restricted Spaces</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1828</td>
<td>When emoticon used as link text, outgoing link section is garbled</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1887</td>
<td>Nullpointer on Global Admin View Templates link</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1838</td>
<td>After creating user, go to user details page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2311</td>
<td>Atlassian stops getting mail if it can't parse one message</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1287</td>
<td>&quot;400 Bad Request&quot; response when viewing page with quotes in title on Orion</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2165</td>
<td>Single-page XML exports can be imported without a space</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2306</td>
<td>xerces-2.1.1.jar is corrupt</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-2124</td>
<td>PDF Space Export includes deleted page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2074</td>
<td>Can create duplicate user by appending space to an existing username</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1933</td>
<td>NullPointerException when removing attachment</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1555</td>
<td>Edit My Profile alignment is off</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1886</td>
<td>Browse templates breaks space colour scheme</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1827</td>
<td>Javascript errors on unknown page links</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2171</td>
<td>Incoming Links vanished from page-operations</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1409</td>
<td>Restore doesn't restore space colours</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1198</td>
<td>search is not working with non-ascii characters</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-948</td>
<td>Internal links don't work if a page is included using the #includePage macro</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-925</td>
<td>Create admin account step in Setup dies with an ungraceful DuplicateEntityException</td>
<td>Resolved</td>
</tr>
<tr>
<td>#</td>
<td>Title</td>
<td>Status</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>CONF-1758</td>
<td>Page store should still succeed even if indexing fails</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1834</td>
<td>Space summary does not show new comments</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1826</td>
<td>cannot add new spaces or update existing ones</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1814</td>
<td>Still need confluence-admin group to access /admin pages</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1867</td>
<td>improper encoding in confluence.cfg.xml</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1854</td>
<td>The new space permissions page doesn't use my colors</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1853</td>
<td>Gallery macro error when previewing create page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1895</td>
<td>Please upgrade Tomcat used for building standalone distribution</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1888</td>
<td>New global template reports 'Undefined Space' in breadcrumb</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1424</td>
<td>Setting 'User email visibility' doesn't restored from backup</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1425</td>
<td>On upgrade 1.1 -&gt; 1.1.1 Confluence freezes on some time.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1481</td>
<td>NPE calling Search function on conf.atlas.com</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1537</td>
<td>ResourceNotFoundException when viewing Site Decorator for a Space</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1552</td>
<td>Wonky alignment in edit blog post if post is very short</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1557</td>
<td>Wrong URL causes IllegalStateException</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1583</td>
<td>Searching particular PPT fails</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1618</td>
<td>Pages are exported in creation, not alphabetic order</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1672</td>
<td>jira-issues macro fails for URLs containing brackets</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2236</td>
<td>Unable to build search query: null</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2235</td>
<td>Could not initialize proxy - the owning Session was closed</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2216</td>
<td>friendly meg size is not being set in velocity var. (admin - backup and restore)</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2192</td>
<td>Password field for creating a mail account is plain textfield</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2199</td>
<td>Errors upgrading from 1.2 -&gt; 1.3 under MySQL: net.sf.hibernate.PropertyAccessException: exception setting property value with CGLIB</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2206</td>
<td>Repair setup process - demo content &amp; &amp; installed successful links to demo content homepage</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2176</td>
<td>Email footers have errors</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-2169</td>
<td>Need to patch the &quot;duplicate page&quot; bug</td>
<td>Resolved</td>
</tr>
</tbody>
</table>
What’s New in 1.3

Many of the changes between Confluence 1.2 and 1.3 are really of interest only to Confluence administrators. Here we detail the changes that will be important to all Confluence users.

The Trash

Previously, when you deleted a page or blog post, it was unrecoverable. In 1.3, deleting a page moves it to the Trash. Space administrators can retrieve pages from the trash, or purge them forever. If a page has been deleted (or you have deleted a page by mistake), contact a space administrator to get it back.

Note Macros

There are new macros for inserting coloured notes into a page:

(note):

⚠️ This is a note
A note tells you about something that may be important to you.

(tip):

✔️ This is a tip
A tip tells you something you might not have thought of yourself.

(info):

ℹ️ This is informative
Info was an excuse to have a blue note.

(seealso):


Beware!

Warnings can be dangerous if overused, because people start ignoring them.

For more information, check out the notation guide.

**Mail Archiving**

Confluence now includes the capability to store email. This allows you to store mailing-list archives, or records of conversations amongst your team inside Confluence. Mail archiving must be set up by a space administrator.

Have a look at an individual mail, or the view of an entire mail thread (We are using confluence.atlassian.com to keep archives of the confluence-user mailing list).

All mail is indexed, but by default we exclude it from search results because the volume of email can often overwhelm the content of the Confluence site. When you do a search, you might see this reminder that there could be an answer to your question in the email archives:

To link to an email from a Confluence page, you must find the numeric ID of that mail from the end of its URL, and put that in your link like so: [12572], which Confluence will draw like this: [12572]

**Improved JIRA Macros**

The {jiraissues} macro has two new optional parameters:

- `count=true` makes the macro only return the number of issues matched by your filter, not the whole list of issues
- `cache=off` makes the macro retrieve the filter results from JIRA every time the page is loaded, ensuring the results are accurate.
  (Be careful if the filter returns a lot of results, though, you don't want to overload your servers)

There is a new {jiraportlet} macro that allows you to retrieve any portlet from a server running JIRA 3, and display it in a Confluence page, like so:

```
Project: Confluence (CONF)
Project Lead: Per Fragemann [Atlassian]
Reports: Summary | Issues | Road Map | Change Log | Popular Issues | Calendar | Labels | Versions | Components | Agile
Open Issues: (By Priority)

Filter Issues:
- All
- Resolved recently
- Outstanding
- Added recently
- Unscheduled
- Updated recently
- Most important
```

For more information, check the notation guide

**Easy Column Layout**

You can use the `{section}` and `{column}` macros to organise your page into columns. This is especially useful when you combine it with the {jiraportlet} macro: you can arrange a Confluence page just like a JIRA dashboard!

Here's a simple two-column layout:

```

```

For more information, check the notation guide

**Other Things**

- Take a look at how the space summary page has been reorganised
- If you hit alt-E on any wiki page or blog post (ctrl-E if you're using a Mac), you'll be taken to the edit page.
- If you start a link with three slashes, you can link to something relative to the root of the Confluence installation. This is useful for creating links to pages that are part of Confluence, such as the dashboard ([/]), or the space list ([/spaces/listspaces.action]).
- The (excerpt) macro can take a hidden=true parameter to hide the contents of the excerpt within the page
- The (excerpt-include) macro can take a nopanel=true parameter to display the excerpt without any decoration or tables

**Release Notes 1.3.1**

Confluence 1.3.1 is a maintenance release that fixes some bugs that users may have encountered using Confluence 1.3.

1.3.1 is a free upgrade for all existing Confluence customers.

**Who should upgrade?**

Confluence 1.3.1 fixes a number of bugs that were found in Confluence 1.3. However, none of the bugs that were fixed were considered critical or likely to cause data-loss. Administrators should only upgrade Confluence if they are affected by (or feel they would be affected by) one of the issues resolved by this release.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.2.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.3 release notes.

**Changes in 1.3.1**

See also: Issues Resolved for 1.3.1

- Preferences for hiding or masking email addresses are no longer ignored on some screens – CONF-2352
- The plugin manager will no longer fail with an error when trying to return a plugin to its default state after activating or deactivating it – CONF-2396
- Disabling hot referrers in the referrer manager screen now works as expected – CONF-2397
- The save option has been restored to the comment preview screen – CONF-2321
- Deleting a blog post or a page no longer leaves possible orphaned comments in recent changes lists – CONF-2323
- Also, some edge cases in the setup wizard were fixed, the demonstration content was tidied up, and a few minor UI issues were resolved.

**Issues Resolved for 1.3.1**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"].

<table>
<thead>
<tr>
<th>JIRA Issues (24 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>![ ]</td>
</tr>
<tr>
<td>![ ]</td>
</tr>
<tr>
<td>![ ]</td>
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<td>![ ]</td>
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<td>![ ]</td>
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<tr>
<td>![ ]</td>
</tr>
<tr>
<td>![ ]</td>
</tr>
</tbody>
</table>
## Release Notes 1.3.2

Confluence 1.3.2 is a maintenance release which includes 30 bug fixes and improvements that users may have requested using Confluence 1.3.

### Who should upgrade?

We recommend that all 1.3.x users upgrade to Confluence 1.3.2. It includes, among other things, the fix of a memory leak which had been occurring in our error monitoring (see below or CONF-2540); if you have been encountering performance issues within Confluence, this could be of benefit.

### Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3 or 1.3.1, you can find instructions here. We strongly recommend that you backup your `confluence.home` directory and database before upgrading!

If you are upgrading from Confluence 1.2.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.3 release notes.

### Changes in 1.3.2

See also: Issues Resolved for 1.3.2

We've closed 30 issues, so we will not name them all. Among the most prominent in the list are:

- A memory leak in our collection of logging events as a threadlocal, see CONF-2540.
- Consistent UI handling for editing and previewing blogs and comments, see CONF-2479 and CONF-2470.
- Improved IO handling when building exports, see CONF-2510.
- Better cleaning up attachments when pages are removed, see CONF-2567.
- etc...

### Issues Resolved for 1.3.2

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

### JIRA Issues (25 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>🐛</td>
<td>CONF-2308</td>
<td>Verify oracle upgrade from 1.2 -&gt; 1.3</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>🐛</td>
<td>CONF-2355</td>
<td>Bandana upgrade error 1.2 -&gt; 1.3</td>
<td>Closed</td>
<td>Cannot Reproduce</td>
</tr>
<tr>
<td>Issue Key</td>
<td>Description</td>
<td>Status</td>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>CONF-2536</td>
<td>Markers around variable content of each page.</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2479</td>
<td>Comment preview should mirror Page preview</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2566</td>
<td>Import from disk should have a browse filesystem button</td>
<td>Closed</td>
<td>Invalid</td>
<td></td>
</tr>
<tr>
<td>CONF-2490</td>
<td>Error while trying to draw the last-n pages!</td>
<td>Closed</td>
<td>Cannot Reproduce</td>
<td></td>
</tr>
<tr>
<td>CONF-2567</td>
<td>Removing a page should remove its attachments</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2414</td>
<td>XML-RPC methods are not allowed to return void</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2449</td>
<td>Unsupported Database setup option does not let you pick a hibernate dialect</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2458</td>
<td>MS SQL Server connection string wrong</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2426</td>
<td>There is no documentation for userlister</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2442</td>
<td>attachments names with spaces get messed up</td>
<td>Resolved</td>
<td>Duplicate</td>
<td></td>
</tr>
<tr>
<td>CONF-2413</td>
<td>display the user friendly alias for the system link in page summary</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2324</td>
<td>Limit length of traceback links on blog pages</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2507</td>
<td>rss macro creates bad links when feed doesn't contain links</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2495</td>
<td>editmyprofile.action should blow up if you're not logged in</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2420</td>
<td>disable change password link in profile</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2484</td>
<td>html renders in recently updated</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-1771</td>
<td>Shortcut links containing an '@' do not work</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2488</td>
<td>Import/Restore fails: truncation error</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2470</td>
<td>Blog title with illegal character looses blog entry</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2441</td>
<td>Notation guide error</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2418</td>
<td>Creating a blog post with bad characters in the title loses page content</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2552</td>
<td>Check for existence of attachments before trying to delete attachments</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2540</td>
<td>Ensure limit on ThreadLocalAppender for Log4J</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>

Release Notes 1.3.4

Confluence 1.3.4 is a maintenance release which includes a few important bug fixes for anyone running Confluence. These release-notes include information about the (briefly available) 1.3.3 version of Confluence, which 1.3.4 has superseded.

1.3.4 is a free upgrade for all existing Confluence customers.

Who should upgrade?

We recommend that all 1.3.x users upgrade to Confluence 1.3.4. For customers running 1.3.2 and earlier, it includes a fix to the security issue described in Confluence Security Advisory 2005-02-09, and it thus an important upgrade for anyone who is still running an un-patched system.

For customers running 1.3.3, the upgrade is also recommended as this version fixes CONF-2740, a regression in 1.3.3 which could cause referrer and trackback data to disappear.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3 or 1.3.1, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.2.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.3 release notes.

Changes in 1.3.4

See also: Issues Resolved for 1.3.4

Since only five bug-fixes were made for this release, here is a quick run-down.
• The patch for the security issue described in Confluence Security Advisory 2005-02-09 has been applied to 1.3.4
• A regression in 1.3.3 that caused trackback and referer data to be lost has been fixed – CONF-2731
• An intermittent ClassCastException when viewing blog-posts has been fixed – CONF-1671
• The image cache for Apache FOP is now cleared between exports, preventing a case where the wrong version of an attachment may end up in a PDF export – CONF-2647
• A spurious "Connection already closed" log message in the JIRA user management bridge no longer occurs CONF-2656

Issues Resolved for 1.3.4

Issues resolved for 1.3.3

Errors were reported by the JIRA trusted connection.

• APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (6 issues)</th>
</tr>
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<tbody>
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</tr>
</tbody>
</table>

Issues resolved for 1.3.4

Errors were reported by the JIRA trusted connection.

• APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

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<thead>
<tr>
<th>JIRA Issues (3 issues)</th>
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<tr>
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</tr>
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<td>------</td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

Release Notes 1.3.5

Confluence 1.3.5 is a maintenance release which fixes a number of bugs found in earlier 1.3.x Confluence releases. Some areas improved in this release are space export/import, search and LDAP user management. 1.3.5 is also the first Confluence version to be successfully tested against Resin 3.0: see below for the special steps you need to take to get it running.

1.3.5 is a free upgrade for all existing Confluence customers.

Who should upgrade?

We recommend that all 1.3.x users upgrade to Confluence 1.3.5. For customers running 1.3.2 and earlier, it includes a fix to the security issue described in Confluence Security Advisory 2005-02-09, and it thus an important upgrade for anyone who is still running an un-patched system.

For customers running 1.3.4, the upgrade is also recommended as this version fixes CONF-2750, a regression in 1.3.4 that made it impossible to page through search results.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3 – 1.3.4, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.2.3 or earlier, be sure to read the upgrade instructions in the Confluence 1.3 release notes.
Confluence 3.0 Documentation

Changes in 1.3.5

Resin 3.0 Compatibility

Confluence 1.3.5 is the first Confluence version to be successfully tested against Resin 3.0.12. Customers wishing to run Confluence under Resin 3 should read the special instructions at Known Issues for Resin 3.x

Issues Resolved

- Paging through search results no longer results in an error. CONF-2750
- Space export and import now performs much more reliably. CONF-2678
- Setup wizard no longer complains about an incomplete setup if you restore a backup from disk. CONF-2837
- Special characters in search no longer cause parser to explode. CONF-2527, CONF-2532, CONF-2728, CONF-2735...
- Attachment filenames containing spaces are no longer truncated when downloading using Firefox. CONF-2739
- For the full list of fixes, see Issues Resolved for 1.3.5

Issues Resolved for 1.3.5

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

JIRA Issues (33 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF</td>
<td>1000</td>
<td>Get Confluence working on Resin 3.x</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2781</td>
<td>Backups and Restore MUST WORK</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2318</td>
<td>Space Summary - Admin main page should have icons and explanations as per Content</td>
<td>Resolved</td>
<td>Won't Fix</td>
</tr>
<tr>
<td>CONF</td>
<td>2788</td>
<td>Preview doesn't show page title</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2527</td>
<td>Searching for ***... BANG!</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2739</td>
<td>File names are truncated when accessing attachments</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2750</td>
<td>Error viewing Next &gt;&gt; seach results</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2728</td>
<td>Leading Wildcard &quot;searchterm&quot; leads to exception in search</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2532</td>
<td>&quot;System Error&quot; when searching for ~username</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2678</td>
<td>Demo Space import fails</td>
<td>Resolved</td>
<td>Duplicate</td>
</tr>
<tr>
<td>CONF</td>
<td>1511</td>
<td>Confluence forces login on every page view (Resin 3.0 incompatibility)</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2415</td>
<td>Pages with long titles are inaccessible</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2322</td>
<td>NPE in jiraissues macro</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2086</td>
<td>Problem deploying on Jboss under SuSe or FreeBSD</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2820</td>
<td>Error when paging through search results</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2837</td>
<td>Broken mail configuration makes admin console inaccessible</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2779</td>
<td>RemoteSpaceSummary.hashCode has NPE if key is not set</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2771</td>
<td>MappingException in ReferralTaskQueue</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2762</td>
<td>Content link dies if target is a comment.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2561</td>
<td>LazyInitializationException deleting a user</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2627</td>
<td>Can't thumbnail a file called attachments.png</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2634</td>
<td>Confluence import creates two velocity directories instead of one (breaking decorators)</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2637</td>
<td>Tried to finish setup but had not run through the whole wizard?</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2655</td>
<td>Special characters break search</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2387</td>
<td>quick search breaks when the [ character is used</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>1509</td>
<td>All '/display/' links redirect to login page for Resin 3.0.8</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
Release Notes 1.3.6

Confluence 1.3.6 is a special maintenance release for customers who are using Confluence with an Oracle database. It contains a number of fixes, originally developed for Confluence 1.4, to Confluence's behaviour against Oracle databases.

1.3.6 is available as a free upgrade for all existing Confluence customers from the archive download page.

Who should upgrade?

We recommend that customers skip Confluence 1.3.6 and upgrade to Confluence 1.4. Confluence 1.4 includes a great many new features and bug-fixes that are not included in 1.3.6. We do, however, recognise that 1.4 is a significant upgrade and some customers wish to continue with Confluence 1.3 for the time being.

Confluence 1.3.6 is recommended only for Confluence customers who:

- are not yet ready to upgrade to Confluence 1.4, and
- are running Confluence with an Oracle database

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.3 – 1.3.4, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

Changes in 1.3.6

Confluence 1.3.6 addresses a number of situations in which Confluence could lock up, consume additional resources, or fail to perform backup or restore operations against an Oracle database.

Release Notes 1.4

Atlassian Software is proud to present Confluence 1.4 (otherwise known as Hunter). Existing customers who wish to upgrade, or new users who wish to try out Confluence for 30 days can download either the standalone or WAR distributions from the Atlassian website: http://www.atlassian.com/software/confluence

Hunter is the fourth major update to Confluence, and the biggest yet in terms of new features and improvements both visible to the user or hidden "under the hood". Between 1.3.5 and 1.4, we resolved a massive 480 issues.

A big thanks to everyone who reported bugs, and offered suggestions over the last few months, especially everyone who helped by trying out our Development Releases.

See also: Issues Resolved for 1.4

Contents

- Upgrading
- Migration
- New Features
- Notable Bug Fixes
- Outstanding Bugs

Upgrading From a Previous Version of Confluence

Upgrading Confluence should be pretty easy: you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

Upgrading from 1.3.5

Because of the significant UI changes between 1.3 and 1.4 (see below), we highly recommend disabling any themes or UI customisations before upgrading Confluence.
After upgrading to 1.4, administrators will need to rebuild the site's search-index to ensure all the new search features are enabled. Do this from the **Content Indexing** section of the global administration menu.

### Upgrade Migration

The database migration tasks that must be run to upgrade Confluence from 1.3 to 1.4 may take several minutes to run. During this time, Confluence will be unavailable.

### Confluence License Expiration

A commercial Confluence license entitles you to a year of free upgrades. As such, Confluence 1.4 is the first release of Confluence to which some customers may not be able to upgrade.

**If you were issued your Confluence license before May 24th 2004, you will not be able to upgrade to Confluence 1.4.** Confluence 1.4 will refuse to run with any license issued before this date, and you will be required to downgrade to a previous Confluence version.

### Upgrading from 1.2.3 or Earlier

Users upgrading from an earlier version of Confluence should check the release-notes of the other major Confluence releases:

- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

### Migration

The best place to find out about the new features available in Confluence 1.4 is by checking out our [What's New in Confluence 1.4](#) pages. However, there are a few features of specific interest to Confluence administrators that will be mentioned here:

#### v2Renderer

The engine by which Confluence converts wiki-text to HTML has been rewritten from scratch for Confluence 1.4. This was necessary, as the complexity of Confluence's markup was overwhelming the capabilities of the previous engine and leading to an increasing number of bugs, some of which had the potential to bring down the entire server.

v2Renderer is in every way more powerful (and better, more predictable) than the previous engine, and has undergone a lot of testing to make sure that it renders wiki pages the same way as its predecessor. However, pages that made use of bugs or undocumented features in the original engine may no longer render the same in 1.4 as they did in 1.3. If you come across something that is a bug or a missing feature in the new renderer, please file an [issue in JIRA](#).

One side-effect of the new renderer is that custom Java macros written for Confluence 1.3 and earlier may not be compatible with Confluence 1.4 (although most should continue to function). For more information, macro authors should read [this document](#).

#### New User Interface

In response to a lot of feedback from customers and users of Confluence, the User Interface has undergone a major overhaul between Confluence 1.3 and 1.4. While the changes are mostly self-explanatory, and we believe the new interface is significantly easier for everyone to use and understand than its predecessor, it may be a good idea to make the following resource available to your users as part of the transition: [1.4 Interface - Where Did Everything Go?](#)

Because of the substantial changes to the interface, themes and UI customisations made for Confluence 1.3 and earlier are not compatible with Confluence 1.4, and should be disabled before you upgrade.

#### Blogs have become News

Also in response to a lot of feedback, blogs in Confluence have now been renamed to *news*. We feel this makes it a lot easier to explain them to new and non-technical Confluence users. None of the functionality of blogs has been changed, just the name. 😊

### New Features

Confluence 1.4 has a lot of cool new stuff. Over the next week we'll be releasing a new section of the Confluence website that will examine the new features in detail. Stay tuned.

### Notable Bug Fixes

We resolved a lot of issues between Confluence 1.3.5 and Confluence 1.4. The best way to see what we've fixed is to ask JIRA, the world's best issue-tracker: [Issues Resolved for 1.4](#)

### Outstanding Bugs

Some bugs were introduced during the Confluence 1.4 development cycle that we could not fix in time for the final release. Of note are:
• Index rebuilding may fail on multi-processor systems (for a workaround, see CONF-3168)
• You can not install an XWork plugin by uploading through the web interface, it must be copied into WEB-INF/lib (CONF-3184)
• Uploading a malformed plugin through the web interface may make other plugins cease to function (CONF-3183)
• Under certain circumstances, the mbox mail import may fail against Oracle databases (CONF-3284)
• The Insert Image and Insert Link popups jump the cursor to the top of the text input area on browsers other than Internet Explorer (CONF-3232)

Once again, if you find any bugs in Confluence, or have any feature suggestions, you can report them online in JIRA.

Issues Resolved for 1.4

Error formatting macro: jiraissues: java.lang.RuntimeException: A value with ID '11191' does not exist for the field 'project'.

Release Notes 1.4.1

Confluence 1.4.1 is a maintenance release that resolves some issues users may have encountered using Confluence 1.4. Issues include an occasional failure to display Confluence pages, Oracle and MySQL database issues, and a slow memory-leak.

1.4.1 is a free upgrade for all customers who purchased their Confluence license after June 2nd, 2004.

Who should upgrade?

Confluence 1.4.1 is a recommended upgrade for all users of Confluence 1.4, as it addresses a memory-leak which, while slow, would progressively degrade Confluence's performance and ultimately cause the server to exhaust available memory.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.4, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.3.6 or earlier, be sure to read the upgrade instructions in the Confluence 1.4 release notes.

Changes in 1.4.1

See also: Issues Resolved for 1.4.1

• A slow memory leak has been fixed. (CONF-3347)
• An issue where Confluence pages would intermittently only display their header when loading has been resolved. (CONF-3295)
• Confluence will now deploy reliably on MySQL 4.1 with UTF-8 encoding. (CONF-3306)
• Several issues regarding Confluence's use of the Oracle database have been resolved.
• A recurring bug preventing PNG images from being exported to PDF on some application servers has been fixed. (CONF-731)
• Inconsistencies with custom colour-schemes have been resolved (CONF-3314)

Issues Resolved for 1.4.1

Errors were reported by the JIRA trusted connection.

• APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (16 issues)</th>
</tr>
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<tr>
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<td>CONF-3284</td>
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<tr>
<td>CONF-3255</td>
</tr>
<tr>
<td>CONF-3304</td>
</tr>
</tbody>
</table>
Release Notes 1.4.2

Confluence 1.4.2 is a maintenance release that resolves some issues users may have encountered using previous Confluence 1.4 releases. 1.4.2 introduces Websphere and DB2 compatibility, and fixes issues related to content indexing and the mail queue.

1.4.2 is a free upgrade for all customers who purchased their Confluence license after June 30th, 2004.

Who should upgrade?

Confluence 1.4.2 is a bugfix release. Customers should consult the list of issues resolved for this release to decide whether it is worth their while upgrading. Since this release includes a number of important performance and reliability fixes for content indexing, anyone who relies on Confluence's search functionality should consider upgrading.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.4 or 1.4.1, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.3.6 or earlier, be sure to read the upgrade instructions in the Confluence 1.4 release notes.

Database Connection Pool Changes

Dependent on the size of your Confluence installation, the new re-indexing task may use up to 10 database connections simultaneously. As such, you may need to increase the size of your database connection pool in order to allow Confluence to continue to operate during and after rebuilding the search index.

If Confluence has been set up to use direct JDBC connections, then you will find the setting for Confluence's connection pool size in confluence.cfg.xml in your confluence home directory. Confluence should update this value automatically when you upgrade, so after starting up Confluence 1.4.2 for the first time, you should check to make sure it has been updated to 15 connections, as seen below:

```
<property name="hibernate.c3p0.max_size">15</property>
```

If Confluence has been configured to use a datasource supplied by the application server, you should ensure the application server is configured to supply Confluence with sufficient connections to run.

Changes in 1.4.2

See also: Issues Resolved for 1.4.2

- Confluence has now been tested on Websphere 5.1.1.3 (see Known Issues for Websphere)
- Confluence has now been tested against DB2 8.1 (Linux and Windows)
- The mechanism by which Confluence rebuilds its full-text search index has been rewritten to be significantly less memory-intensive (but may be 10-15% slower). CONF-3340
- An issue that could cause comments or attachments to be removed from the search index when a page was edited has been resolved. CONF-3489
- An issue that could cause index rebuilding to fail (especially on multi-processor systems) has been resolved. CONF-3168
- Issues related to the size and reliability of the mail queue were resolved. CONF-3334 CONF-3474
- An exception when creating global templates was fixed. CONF-3386
- Some Javascript errors that were being flagged on Internet Explorer no longer occur. CONF-3422 CONF-3482
- Exporting a space to HTML via XML-RPC now succeeds. CONF-3401
- Creating a blog post via XML-RPC now succeeds. CONF-3412
Issues Resolved for 1.4.2

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: [0]; "confluence:4557196"

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<td>CONF-3705</td>
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</tr>
<tr>
<td>CONF-3422</td>
</tr>
<tr>
<td>CONF-3401</td>
</tr>
</tbody>
</table>
Release Notes 1.4.3

Confluence 1.4.3 is a maintenance release that resolves some issues users may have encountered using previous Confluence 1.4 releases. 1.4.3 introduces a new SOAP service provider, and fixes issues related to incoming link tracking, notifications management, serving resources from dynamically loaded plugins, and much more.

1.4.3 is a free upgrade for all customers who purchased their Confluence license after August 17th, 2004.

Who should upgrade?

Confluence 1.4.3 is a bugfix release. While Atlassian recommends customers always run the most recently available stable Confluence release, customers should consult the list of issues resolved to decide whether it is worth their while upgrading.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.4 to 1.4.2, you can find instructions here. We strongly recommend that you backup your confluence. home directory and database before upgrading!

If you are upgrading from Confluence 1.3.6 or earlier, be sure to read the upgrade instructions in the Confluence 1.4 release notes.

Changes in 1.4.3

See also: Issues Resolved for 1.4.3

Remote API Changes

Confluence now ships with an second SOAP provider running Apache Axis, alongside the existing Glue SOAP provider. This is the first step towards migrating entirely to Axis as our sole SOAP provider over the next few major Confluence releases. If you use Confluence’s SOAP API, you should read this document for information about the migration process and timeframe.

All SOAP clients that worked with Confluence 1.4.2 will continue to work with Confluence 1.4.3 with no change.

Other changes made to the remote API:


- A condition under which SOAP faults could be masked by HTML error pages on some application servers was resolved. (CONF-3043)
- Deleting a page via the remote API now places that page in the trash. (CONF-3403)
- Adding space level permissions to a user through the remote API now works as expected. (CONF-3596)

**Other Changes and Fixes**

- A bug that would cause a page's most recent editor to change when the page was previewed has been fixed (CONF-3424)
- A bug that could cause a page's incoming links not to be displayed has been fixed (CONF-3509)
- A bug that could cause "Watch this space" not to function has been fixed (CONF-3510)
- A bug that could cause Confluence to run out of available file descriptors when exporting a space has been fixed (CONF-3517)
- A bug that could cause an email notification to be sent regarding a page that was restricted by page-level permissions has been fixed (CONF-3573)
- The attachment upload form in the "Insert Image" is more robust against error (CONF-3677, CONF-3676)
- Searching for a page in the Parent Page Picker Popup now functions as expected (CONF-3364)
- Deleting a user now correctly deletes their email notifications (CONF-3619)
- Restoring a page from the trash now re-adds that page's comments to the search index (CONF-3564)
- Attachment links are now not rendered if the user can not view the attachment due to page level permissions (CONF-3553)
- The list of recently edited pages in a user's profile is now more accurate (CONF-2430)
- Plugins uploaded through the web interface can now correctly serve downloadable resources (CONF-3387)
- The (recently-updated) macro and recent blogs pages now work under JDK 1.5 (CONF-3528, CONF-3601)
- The (section) macro's "border" property now works correctly (CONF-3736, CONF-3433)
- The (noformat) macro now has a "nopanel" parameter that will suppress drawing a background or border (CONF-3656)
- Several issues regarding the (tasklist) macro were fixed (CONF-3622, CONF-3633, CONF-3632)
- The (dynamictasklist) macro no longer breaks PDF exports (CONF-3513)
- The informational macros no longer center their text when viewed in Internet Explorer (CONF-3537)
- Links are now parsed in the title of a (panel) macro (CONF-3560)
- The string ??!! is no longer interpreted by the Wiki/HTML renderer as a broken image

See also: Issues Resolved for 1.4.3

---

**Confluence SOAP Provider Migration**

Starting with the release of Confluence 1.4.3, and stretching through the next three major releases, Confluence will be transitioning from using the Glue library to provide a SOAP remote API, to using Apache Axis. Unfortunately, while the SOAP services will stay the same, the WSDL that these libraries generate to interact with the same services will change, so SOAP applications that interact with Confluence will need to migrate with us.

The migration should be relatively painless. Since the underlying objects represented by the WSDL are still the same, the process should involve regenerating your SOAP stubs, and a few cosmetic code changes.

The XML-RPC API is unaffected by this change.

**Current Status**

<table>
<thead>
<tr>
<th>Version</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4.3 and 1.5/2.0</td>
<td>Deploy Axis SOAP service alongside Glue</td>
<td>Completed</td>
</tr>
<tr>
<td>(unscheduled)</td>
<td>Allow configuration of default SOAP provider, the default at installation being Axis</td>
<td>Incomplete</td>
</tr>
<tr>
<td>(unscheduled)</td>
<td>Remove Glue SOAP provider</td>
<td>Incomplete</td>
</tr>
</tbody>
</table>

Progress on these issues can also be tracked via CONF-3141

**The Plan**

As of version 1.4.3, Confluence ships with three SOAP endpoints:

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>WSDL URL</th>
<th>Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>/rpc/soap/confluencesoapservice-v1</td>
<td>/rpc/soap/confluenceservice-v1.wsdl</td>
<td>Glue</td>
</tr>
<tr>
<td>/rpc/soap-glue/confluencesoapservice-v1</td>
<td>/rpc/soap-glue/confluenceservice-v1.wsdl</td>
<td>Glue</td>
</tr>
<tr>
<td>/rpc/soap-axis/confluencesoapservice-v1</td>
<td>/rpc/soap-axis/confluenceservice-v1.wsdl</td>
<td>Axis</td>
</tr>
</tbody>
</table>

The Axis and Glue providers produce slightly different WSDL URLs

Third-party SOAP RPC Plugins deployed in Confluence will be similarly deployed in three locations
Over the next three major Confluence releases we will:

1. Make the provider of `/rpc/soap/confluenceservice-v1` configurable, then
2. Change the default provider to Axis (but leave it configurable), then finally
3. Remove the Glue provider entirely

**What This Means for SOAP Clients**

Confluence major releases occur every three or four months. Thus, authors of SOAP clients should keep in mind this timeline, starting with the release of Confluence 2.0 (November 2005)

<table>
<thead>
<tr>
<th>0-3 months</th>
<th>3-6 months</th>
<th>6+ months</th>
</tr>
</thead>
</table>
| • All existing SOAP clients written against the Glue provider will continue to function normally.  
• New clients should be written to the Axis provider in `/rpc/soap-axis`  
• Existing clients should change their SOAP endpoints to point to `/rpc/soap-glue` (or, better still, move directly to Axis) | • Confluence will require configuration to work with any client of the Glue provider that has not changed its endpoint  
• New clients should be written to the Axis provider in `/rpc/soap-axis`  
• Existing clients will need to migrate to the Axis provider | • Confluence will no longer work with clients written against the Glue provider  
• Both `/rpc/soap` and `/rpc/soap-axis` endpoints will continue to be served by the Axis provider |

**Issues Resolved for 1.4.3**

Errors were reported by the JIRA trusted connection.

- `APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]`

<table>
<thead>
<tr>
<th>JIRA Issues (50 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>CONF-3658</td>
</tr>
<tr>
<td>CONF-3670</td>
</tr>
<tr>
<td>CONF-801</td>
</tr>
<tr>
<td>CONF-3656</td>
</tr>
<tr>
<td>CONF-3654</td>
</tr>
<tr>
<td>CONF-3424</td>
</tr>
<tr>
<td>CONF-3601</td>
</tr>
<tr>
<td>CONF-3505</td>
</tr>
<tr>
<td>CONF-1843</td>
</tr>
<tr>
<td>CONF-3736</td>
</tr>
<tr>
<td>CONF-3619</td>
</tr>
<tr>
<td>CONF-3577</td>
</tr>
<tr>
<td>CONF-3632</td>
</tr>
<tr>
<td>Ticket</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>CONF-3564</td>
</tr>
<tr>
<td>CONF-3575</td>
</tr>
<tr>
<td>CONF-3633</td>
</tr>
<tr>
<td>CONF-3711</td>
</tr>
<tr>
<td>CONF-3507</td>
</tr>
<tr>
<td>CONF-3364</td>
</tr>
<tr>
<td>CONF-1749</td>
</tr>
<tr>
<td>CONF-2287</td>
</tr>
<tr>
<td>CONF-2430</td>
</tr>
<tr>
<td>CONF-1324</td>
</tr>
<tr>
<td>CONF-3387</td>
</tr>
<tr>
<td>CONF-3433</td>
</tr>
<tr>
<td>CONF-3428</td>
</tr>
<tr>
<td>CONF-3403</td>
</tr>
<tr>
<td>CONF-3227</td>
</tr>
<tr>
<td>CONF-3620</td>
</tr>
<tr>
<td>CONF-3676</td>
</tr>
<tr>
<td>CONF-3677</td>
</tr>
<tr>
<td>CONF-3517</td>
</tr>
<tr>
<td>CONF-3509</td>
</tr>
<tr>
<td>CONF-3510</td>
</tr>
<tr>
<td>CONF-3537</td>
</tr>
<tr>
<td>CONF-3530</td>
</tr>
<tr>
<td>CONF-3572</td>
</tr>
<tr>
<td>CONF-3573</td>
</tr>
<tr>
<td>CONF-3608</td>
</tr>
</tbody>
</table>
**Release Notes 1.4.4**

Confluence 1.4.4 is a maintenance release that resolves some issues users may have encountered using previous Confluence 1.4 releases. 1.4.4 fixes a number of issues, including many related to the reliability of uploaded plugins.

1.4.4 is a free upgrade for all customers who purchased their Confluence license after September 23rd, 2004.

**Who should upgrade?**

Confluence 1.4.4 is a bugfix release. While Atlassian recommends customers always run the most recently available stable Confluence release, customers should consult the list of issues resolved to decide whether it is worth their while upgrading.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence versions between 1.4 and 1.4.3, you can find instructions here. **We strongly recommend that you backup your confluence.home directory and database before upgrading!**

If you are upgrading from Confluence 1.3.6 or earlier, be sure to read the upgrade instructions in the Confluence 1.4 release notes.

**Changes in 1.4.4**

**Uploaded Plugin Fixes**

Prior to Confluence 1.4.4, plugins containing Spring components, XWork actions or velocity templates could not be uploaded through the web interface, and needed to be installed manually in WEB-INF/lib. Confluence 1.4.4 fixes these issues.

**Database Indexes**

Confluence 1.4.4 now correctly creates database indexes on a clean installation. If you are upgrading an existing Confluence instance, you should consult Performance Tuning for information on indexes that can improve Confluence’s performance significantly.

**Other Changes and Fixes**

See: Issues Resolved for 1.4.4

**Issues Resolved for 1.4.4**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

**JIRA Issues (47 issues)**
<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF</td>
<td>3980</td>
<td>Spelling error &quot;hierarchy: on moving/renaming pages between spaces</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3220</td>
<td>Document the dangers of turning external user management off</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>4793</td>
<td>Link to news item</td>
<td>Closed</td>
<td>Answered</td>
</tr>
<tr>
<td>CONF</td>
<td>3658</td>
<td>Create axis soap service alongside glue service</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3989</td>
<td>AttachmentViewEvent</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3411</td>
<td>login page should display alternative content if user is already logged in</td>
<td>Resolved</td>
<td>Duplicate</td>
</tr>
<tr>
<td>CONF</td>
<td>3973</td>
<td>Logo doesn't link to user's &quot;home&quot; - instead hard-links to dashboard</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2132</td>
<td>Include recent changes as a macro</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>2999</td>
<td>Fix release process</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3895</td>
<td>When editing an existing page, clicking the Choose Page image to select a Parent Page causes a Javascript error in both IE and Mozilla</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>4015</td>
<td>Component plugins are not removed from the spring context when disabled.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3905</td>
<td>Colour of Breadcrumb text cannot be configured</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3988</td>
<td>Missing #comments and #addcomment anchors when viewing page</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3664</td>
<td>Deactivate user link does not display when viewing a user's profile</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3838</td>
<td>Export Space to XML may produce &quot;Too many open files&quot; error</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>4107</td>
<td>Page titles containing ? may not be linked to on some application servers</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3969</td>
<td>Welcome greeting color not using colour scheme colours</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>4000</td>
<td>View system info shows &quot;1 , 1 hour, 55 minutes, 53 seconds&quot; as the system uptime.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3971</td>
<td>Layout off on Themes page</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3800</td>
<td>Start watching this space</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3843</td>
<td>includePage macro does not work when called from an inline decorator</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3567</td>
<td>Umlauts and page-titles - few work, many don't.</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3855</td>
<td>DuplicateNotificationsCleanupUpgradeTask breaks on MySQL 3</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3884</td>
<td>Could not execute action</td>
<td>Closed</td>
<td>Answered</td>
</tr>
<tr>
<td>CONF</td>
<td>3383</td>
<td>[file:// links break with \</td>
<td>Resolved</td>
<td>Won't Fix</td>
</tr>
<tr>
<td>CONF</td>
<td>3878</td>
<td>Uploading macros via web interface is broken</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>Ticket Number</td>
<td>Description</td>
<td>Status</td>
<td>Category</td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>CONF-3805</td>
<td>MAILTO Links on PDF export are broken</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
</tr>
<tr>
<td>CONF-3758</td>
<td>%span% markup should be removed from notation guide.</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3893</td>
<td>Email containing no body generates exception.</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3610</td>
<td>Exported space (pdf or html) always has blank 'Available Pages' section</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3288</td>
<td>JavaScript error in IE when re-editing a blog post</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3325</td>
<td>Attachment and Anchor links appear on undefined pages list</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3059</td>
<td>User Management Delegated to JIRA</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3781</td>
<td>HTTPS Links on PDF export are broken</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3803</td>
<td>News and Comments</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3797</td>
<td>Resources not loading for plug-ins</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3790</td>
<td>Broken links to pages with non-ASCII titles</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3849</td>
<td>Email and News updated</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3997</td>
<td>Job DEFAULT.indexQueueFlushJob threw an unhandled Exception</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4024</td>
<td>SQL run by DuplicateNotificationsCleanupUpgradeTask gives syntax error on MySQL</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
</tr>
<tr>
<td>CONF-3970</td>
<td>Wrong icon on Plain Website theme</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3860</td>
<td>Broken &quot;attached&quot; link in Confluence demo space</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3858</td>
<td>Unnecessary db hits in ViewPageAction</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4782</td>
<td>Missing Apostrophe in Page Permission Error Message</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
</tr>
<tr>
<td>CONF-2780</td>
<td>Missing database indexes and slow performance</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3184</td>
<td>XWork actions in uploaded plugins do not work</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3886</td>
<td>XMLRPC API storePage ignores parentid=0</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>

**Release Notes 2.0**

Atlassian Software is proud to present Confluence 2.0 (otherwise known as Yarra). Yarra is the result of five months of solid work by the Confluence team, and we're really glad to be able, finally, to share it with the world. Existing customers who wish to upgrade, or new users who wish to try out Confluence for 30 days, can download Confluence from the Atlassian website: [http://www.atlassian.com/software/confluence](http://www.atlassian.com/software/confluence)

Yarra is the fifth major update to Confluence. Among the improvements in Confluence 2.0 are an easy-to-use WYSIWYG editor for writing pages, labels for categorising them, and a powerful RSS builder for keeping track of what's new.

Confluence 2.0 is a free upgrade for any customer who purchased their Confluence license after November 16th, 2004. If the maintenance period of your license has expired, or is about to expire, why not contact our friendly sales staff and get it renewed? It's the only way to keep up with all the great new features we're adding.
A big thanks to everyone who reported bugs and offered suggestions over the last few months, especially everyone who helped by trying out our Development Releases. Also, congratulations to the Socceroos for getting Australia into the World Cup for the first time in 32 years. It almost makes up for losing the Ashes.

See also: Issues Resolved for 2.0

Contents

- Upgrading
- Migration
- New Features
- Notable Bug Fixes
- Outstanding Bugs

Upgrading From a Previous Version of Confluence

Upgrading Confluence should be pretty easy. **We strongly recommend that you backup your confluence.home directory and database before upgrading!**

### Upgrades from 1.4.2 and earlier

If you are upgrading from Confluence 1.4.2 or earlier, you may experience problems with some space-related functionality (see [CONF-4765](#)), such as adding a space as a favourite. To work around this, please restart the Confluence instance after the upgrade. This will be fixed in Confluence 2.0.2.

---

Important Migration Notes

#### Macro/Plugin Compatibility

Necessary changes were made to the Confluence rendering subsystem during the development of Confluence 2.0 that may render some third-party plugins (especially macros) inoperable. If you upgrade Confluence and find that macros or plugins are not operating correctly, try removing all files from `[/confluence-home]/plugins` and restarting Confluence.

#### HSQL 1.8 Upgrade

If you are using the embedded HSQL database, it is possible that Confluence will not be able to automatically upgrade your data. If this happens, Confluence 2.0 will refuse to start, and you will be directed to the following Confluence page which contains instructions on how to upgrade the database manually: Upgrading From HSQL 1.7.1 to 1.8

#### SSO update

If you are using some third-party Seraph authenticator with Confluence, or have written your own, you should read [CONF-4581](#) before upgrading. Confluence now uses the Seraph defined login.link.url property to define its login link urls, which may cause issues with authenticators that relied on Confluence’s previous, incorrect behaviour.

#### Weblogic Performance

Confluence 2.0 may perform very badly under Weblogic. There is a workaround for this problem described in [CONF-4634](#), and a full fix is included in 2.0.1.

#### JDK 1.5

If you are running Confluence 2.0 on the JDK 1.5, you will need to download some additional dependencies as described in [CONF-4643](#). A full fix is included in 2.0.1.
MySQL 5

If you are running Confluence 2.0 on the MySQL 5 database, you may encounter some problems. One fix is described here.

Upgrading from 1.4.4

After upgrading to 2.0, administrators will need to rebuild the site’s search-index to ensure all the new search features are enabled. Do this from the Content Indexing section of the global administration menu.

Upgrading from 1.3.5 or Earlier

Users upgrading from an earlier version of Confluence should check the release-notes of the other major Confluence releases:

- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

New Features

The four major new features in Confluence 2.0 are:

- Rich Text Editing
- Labels for content
- New Dashboard Features for managing sites with large numbers of spaces.
- A dynamic RSS Builder

...but there’s a lot more on top of that.

Rich Text Editing

Browser Compatibility

The Confluence Rich Text editor is currently only compatible with Internet Explorer 6 on Windows, plus Mozilla and Firefox across platforms. Javascript must be enabled in the browser for the editor to function. Support for Safari under Mac OS X is currently not available. To track Safari compatibility, please follow this JIRA issue: CONF-3864

It almost goes without saying that the most highly requested feature in Confluence has been the ability to create pages without having to learn wiki markup. We’re glad we can finally offer a powerful “what you see is (pretty much) what you get” rich text editor built into Confluence, making it easier for anyone to contribute to the site.

The WYSIWYG editor is enabled when you install or upgrade to Confluence 2.0. Global Administrators can disable the editor if they want to stick with pure wiki markup, and can also choose which editor users should be presented with by default. (The setting is under "General Configuration" in the administrative console). Users can also choose which editor they prefer simply by clicking on the “Make this my default editor” link that appears on the edit screen.

For the “feature mad” amongst us, here are some neat things you can do with the WYSIWYG editor:

- Full screen view - really useful for editing large pages. Click in the menu bar.
- Quickly switch between WYSIWYG and Wiki markup without a page refresh
- Change the size of your editing window to suit your browser. Your size preference is remembered across sessions. To change it, drag the handle in the bottom right hand corner of the editor.
- Undo and redo!

Labels

Another highly requested feature was the ability to categorise content within Confluence beyond the rigid hierarchy allowed by spaces and parent-child relationships between pages. To this end we have introduced labels: simple one-word ‘tags’ that can be added to any page or blog-post the user has permission to edit. Labels can be used to categorise content, bookmark it, flag it for attention, or anything else you can think of.
A Tag By Any Other Name

Picking a name for labels wasn’t easy. Google’s GMail service calls them labels, while other collaborative categorisation systems such as del.icio.us and Flickr call them tags. We decided that ‘label’ was a more natural description. For more information about our choice, see Labels vs Keywords on our new Developer Blog and for more on the overall philosophy behind labels and tags, check out the Folksonomy page on Wikipedia.

Labels can be added to any page from the edit screen, or through a dynamic interface right when you’re viewing a page.

Once a page is labeled, then clicking on the label’s name allows you to browse other pages with the same label, or view related labels that commonly occur on the same pages.

You can also view the space’s most popular labels from the space browser, to get an idea of the most popular topics within the space.

Personal Labels
If you prepend my: to a label (for example, my:todo or my:favourite, then the label is a personal label - only visible to you. Personal labels allow you to tag content for your own purposes: for example to keep track of pages you feel need your attention, or that contain information you refer to frequently. You can browse your personal labels from your user profile. Any user can add their personal labels to any page, even when they don’t have editing permission.

Favourites
Favourites are a special personal label: my:favourite or my:favorite. Whenever you see the 🌟 icon, it means you can label this content as being your favourite, and whenever you see the 🌟 icon, it means that the content is currently in your list of favourites. You can view your favourites from the Labels tab of your user profile, or keep track of them on your dashboard.

Label-Aware Macros
Many existing macros have been improved to allow you to filter content based on labels: including the {recent-pages}, {recently-updated} and {blog-posts} macros. We’ve also added macros that provide more information about labels and labelled content:

- {related-labels} gives a list of labels that might be related to a page
- {listlabels} lists all the labels in a space
Dashboard Features

The Confluence dashboard has been improved to make it easier for you to keep track of only those spaces you are interested in: a big improvement for Confluence sites with large numbers of spaces. The list of spaces is now divided into four tabs (although all four may not be visible):

- **All** shows you all spaces
- **My** shows you all spaces you have marked as your favourites (you can mark a space as your favourite from the **All** tab by clicking on the heart icon)
- **Team** shows you all the available 'teams', and the spaces that have been assigned to them
- **New** shows you any space that has been added in the last week

The recently updated content list on the dashboard will reflect the spaces in your chosen tab. So if you're looking at the **My** tab, the dashboard will only be showing you the recent updates in your favourite spaces.

Teams!dashboard-team-tab.png|align=left|
Teams are a simple, and very wiki-like way to group spaces together. Space administrators can add "team labels" to a space, which are then used to group those spaces under the team tab on the dashboard. So if your wiki has 100 spaces, but only five of them are of any interest to your sales team, just add a "sales" team label to those five spaces. That will group those spaces together on the dashboard under the 'team' tab, and your sales team need never look at the other 95 spaces.

RSS Builder

Confluence has always provided a brace of useful RSS feeds, but the problem is that for every feed we provided, users asked for half a dozen more. The obvious answer is to let users build RSS feeds based on their own chosen criteria. You can access the RSS builder from the Confluence dashboard.

Once in the builder, you can choose:

- Which spaces to include in the feed
- Which types of content should be tracked
- Which labels, if any, you are interested in
- How many items to include in the feed
- Whether you want a single RSS entry per page or one for each time the page is edited
- Whether you want an RSS 2.0 or Atom 0.3 feed
- Whether Confluence should require authentication to view the feed

Once you have decided what you want, Confluence will give you a URL to paste into your RSS reader. These URLs can be shared with other Confluence users, although they will only ever be allowed to see content that they have permission to view. If you have asked to authenticate, Confluence will require HTTP Basic Authentication, which is supported by most RSS readers.

We've also taken the opportunity to improve the presentation of our RSS feeds - including a lot more information in each feed so you can follow your Confluence site entirely from your newsreader.

⚠️ The Atom Working Group has blessed the final Atom 1.0 standard, and are recommending that all applications remove support for Atom 0.3. However, as of the release of Confluence 2.0, there is no stable Atom 1.0 library from which we could generate feeds. In some future release of Confluence, Atom 0.3 support will be removed in favour of Atom 1.0.

Other New Features

Record "Change Comments" When Editing a Page

There is now a field on the edit screen for recording a "change comment" when you edit a page. These comments are stored in the page history, and can be used to keep a more complete history of why a page has been edited.
Embed Flash and Movies
You can now embed Flash content or movies (Quicktime or Windows Media) into a page as easily as you can an image: just attach the Flash or movie file to the page, then include it as you would include an image (!filename.mov!).

Export Pages as Word Documents
You can now export pages straight into Word from the Info tab. This is extremely useful for emailing around content to non-Confluence users, printing a document or just creating a backup in Word.

Copy Pages
Also on the Info tab is a "Copy" link that allows you to clone a page in a single click - including making copies of any attachments.

Improved Search Interface
Results returned from Confluence's search engine now have:

- Improved contextual results, showing the most important text around where your query was matched in the page
- Contextual results for any attachment: see where a search was matched even inside PDF, Word, PowerPoint or Excel documents!
- Search results for attachments give you more (and clearer) information about what the attachment is, and where it's from!

Chart Plugin
The Chart Macro is now shipped with Confluence, allowing you to dynamically generate neat looking charts like this:

Fish Sold

<table>
<thead>
<tr>
<th>Year</th>
<th>Herring</th>
<th>Salmon</th>
<th>Tuna</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>2,000</td>
<td>1,500</td>
<td>1,000</td>
</tr>
<tr>
<td>2005</td>
<td>3,500</td>
<td>4,000</td>
<td>2,500</td>
</tr>
</tbody>
</table>
### Wiki Source

```wiki
{chart:title=Fish Sold|type=bar|width=400|height=350|legend=true}
<table>
<thead>
<tr>
<th>Fish Type</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herring</td>
<td>9,500</td>
<td>8,300</td>
</tr>
<tr>
<td>Salmon</td>
<td>2,900</td>
<td>4,200</td>
</tr>
<tr>
<td>Tuna</td>
<td>1,500</td>
<td>1,500</td>
</tr>
</tbody>
</table>
{chart}
```

### Improved Gallery Macro

The gallery macro has been spruced up, and now has a slideshow view:

#### Confluence 2.0 Screenshots

- My personal labels! Only for me!
- Popular labels for a given space.
- Alphabetically organised labels for a given space.

Some release notes exported to Word (even on a Mac!) - great for printing too.

The new Dashboard space tabs, here showing the "jira" team tab and one favourite space.

A very basic (quite boring - sorry, it's late) example of change summaries.

Screenshot of the new 2.0 rich text editor

Improved search showing fragments from attachments, file sizes and types.

The new RSS builder lets you construct RSS feeds of exactly the content you want.

View page label interface showing autocomplete.
Additions to the Remote API

Additions to the Confluence Remote API include:

- Comment manipulation
- Label manipulation
- Attachment uploading and editing
- Improved user- and permissions management

Confluence now uses version 2.0 of the Apache XML-RPC library. Java XML-RPC clients using earlier versions of the Apache XML-RPC libraries (i.e. 1.3 or earlier) may experience problems with responses containing non-ASCII data.

Also...

- You can download all the attachments on a page in a single zip-file
- Import and restore now have progress indicators
- Backup and restore use significantly less memory
- The embedded database has been upgraded to HSQL 1.8, which should be significantly more reliable
- Collapsed breadcrumbs now expand with a single mouse click

Notable Bug Fixes

We resolved a lot of issues between Confluence 1.4.4 and Confluence 2.0. The best way to see what we've fixed is to ask JIRA, the world's best issue-tracker: Issues Resolved for 2.0

Outstanding Bugs

Some bugs were introduced during the Confluence 2.0 development cycle that we could not fix in time for the final release. Of note are:

- Some pernicious Javascript errors when changing styles in the rich text editor under Internet Explorer
- The rich text editor may not perfectly handle complex pages with structural macros
- Attachments containing high-bit characters in their filenames may not be correctly retrieved by Confluence

Once again, if you find any bugs in Confluence, or have any feature suggestions, you can report them online in JIRA.

The Confluence 2.0 Team

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Daniel Ostermeier
Jens Schumacher

Documentation
Vidya Madabushi

Oversight & Mis management
Mike Cannon-Brookes
Scott Farquhar

Nerf Target-Practice
Nick Faiz

Well that's all folks - if you're still reading - thank you for getting this far!

To keep up with all the latest developments in the next 2.1 release (codenamed: Bogan) - subscribe to our developer blog.

Issues Resolved for 2.0

Error formatting macro: jiraissues: java.lang.RuntimeException: A value with ID '11191' does not exist for the field 'project'.

Release Notes 2.0.1
Confluence 2.0.1 is a maintenance release that resolves some issues users may have encountered using Confluence 2.0. In particular, this includes issues relating to failures to upgrade and javascript problems.

2.0.1 is a free upgrade for all customers who purchased their Confluence license after November 28th, 2004.

**Who should upgrade?**

Confluence 2.0.1 is a recommended upgrade for all users who have not yet upgraded to 2.x and for those users of 2.0 that are encountering issues fixed in this release.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 1.4, you can find instructions here. We strongly recommend that you backup your `confluence.home` directory and database before upgrading!

If you are upgrading from Confluence 1.4.4 or earlier of Confluence, please check the release-notes of the other major Confluence releases:

- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

**Changes in 2.0.1**

See also: Issues resolved for 2.0.1

- Javascript failing with a class not found. (CONF-4643)
- Confluence 2.0 hangs on weblogic. (CONF-4634)
- Disabling WYSIWYG editor causes AJAX error in Preview mode. (CONF-4745)
- Ancestors table hangs on to foreign key relationships if it can’t be deleted. (CONF-4700)

**Issues resolved for 2.0.1**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (42 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>![icon]</td>
</tr>
<tr>
<td>![icon]</td>
</tr>
<tr>
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<td>![icon]</td>
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<tr>
<td>![icon]</td>
</tr>
<tr>
<td>![icon]</td>
</tr>
<tr>
<td>![icon]</td>
</tr>
<tr>
<td>Ticket</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>CONF-4699</td>
</tr>
<tr>
<td>CONF-4654</td>
</tr>
<tr>
<td>CONF-4749</td>
</tr>
<tr>
<td>CONF-4533</td>
</tr>
<tr>
<td>CONF-4578</td>
</tr>
<tr>
<td>CONF-4737</td>
</tr>
<tr>
<td>CONF-4698</td>
</tr>
<tr>
<td>CONF-4700</td>
</tr>
<tr>
<td>CONF-4768</td>
</tr>
<tr>
<td>CONF-4745</td>
</tr>
<tr>
<td>CONF-4643</td>
</tr>
<tr>
<td>CONF-4641</td>
</tr>
<tr>
<td>CONF-4631</td>
</tr>
<tr>
<td>CONF-4634</td>
</tr>
<tr>
<td>CONF-4649</td>
</tr>
<tr>
<td>CONF-4666</td>
</tr>
<tr>
<td>CONF-4668</td>
</tr>
<tr>
<td>CONF-4667</td>
</tr>
<tr>
<td>CONF-4661</td>
</tr>
<tr>
<td>CONF-4561</td>
</tr>
<tr>
<td>CONF-4487</td>
</tr>
<tr>
<td>CONF-4720</td>
</tr>
<tr>
<td>CONF-4650</td>
</tr>
<tr>
<td>CONF-4719</td>
</tr>
<tr>
<td>CONF-4388</td>
</tr>
<tr>
<td>CONF-4714</td>
</tr>
</tbody>
</table>
Release Notes 2.0.2

Confluence 2.0.2 is a maintenance release that resolves a security issue, along with various issues users may have encountered using Confluence 2.0.1.

A security flaw as described by the Confluence Security Advisory 2005-12-05 has been identified to exist in Confluence 1.4.x and 2.0.x. This has been fixed in 2.0.2. We recommend to all customers that they either upgrade to 2.0.2 or follow the instructions provided on the Confluence Security Advisory 2005-12-05 to patch their installation.

The release of Firefox 1.5 resulted in new bugs and issues with the Rich Text editor. Therefore every version of Confluence up to 2.0.2 isn’t very compatible with this browser in terms of Rich Text editing.

Confluence 2.0.3 will feature an updated version of the editor which will solve most of the problems with Firefox 1.5 (CONF-4809).

2.0.2 is a free upgrade for all customers who purchased their Confluence license after December 5th, 2004.

Who should upgrade?

Confluence 2.0.2 is a recommended upgrade for all users as it contains a security patch for the Confluence Security Advisory 2005-12-05. If you are unable to upgrade to 2.0.2, then please see Confluence Security Advisory 2005-12-05 for details on how to patch your installation.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.0, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 1.4.4 or earlier of Confluence, please check the release-notes of the other major Confluence releases:

- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3

Changes in 2.0.2

See also: Issues resolved for 2.0.2

- Search results page needs to XML encode the query string provided by the user (CONF-4825).
- Recently updated does not list any items (CONF-4770).
- CamelCase linking interferes with rendering of attachment link (CONF-3447).
- Umlaute in links are causing encoding problems with the Rich Text editor (CONF-4775).
- Disabled accounts still receive (blank) daily reports (CONF-4802).

Issues resolved for 2.0.2

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; [confluence:4557196]

JIRA Issues (21 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
</table>
| CONF-472 | NullPointerException when adding space as favourite | Resolved | Answered  
| CONF-4682 | NullPointerException when saving a page with content pasted from MS Word | Resolved | Fixed  
| CONF-4526 | Do not remove blank lines after headings when switching between WYSIWYG and RichText. | Resolved | Fixed  
| CONF-4639 | Image popup window wrong size? | Resolved | Fixed  

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; [confluence:4557196]
<table>
<thead>
<tr>
<th>Issue ID</th>
<th>Description</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-4810</td>
<td>Make a note in the 2.0.2 release notes about problems with WYSIWYG editor on Firefox 1.5 for the Mac</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4151</td>
<td>Allow sorting of attachments</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4786</td>
<td>Need to support UNICODE characters in MSSQL server.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-3272</td>
<td>Allow attachments to be ordered by date, size and name in the attachments macro</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-2790</td>
<td>Images in historical versions of pages are not rendered</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4770</td>
<td>recently updated does not list any items</td>
<td>Closed</td>
<td>Locally</td>
</tr>
<tr>
<td>CONF-3447</td>
<td>CamelCase linking interferes with rendering of attachment link</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-3923</td>
<td>CamelCase linking breaking image rendering if image titled &quot;ThisIsAnImage.jpg&quot;</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4771</td>
<td>editor does not work in firefox 1.5</td>
<td>Closed</td>
<td>Handled by Support</td>
</tr>
<tr>
<td>CONF-4775</td>
<td>Umlaute in links are causing encoding problems with the Rich Text editor</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4799</td>
<td>Extra &quot;&lt;&quot; in labels-include.vm causes problems with page loading</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4804</td>
<td>Contentbylabel macro separates labels by spaces rather than commas</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4825</td>
<td>Search results page needs to XML encode the query string provided by the user</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4766</td>
<td>LazyInitializationException in ResourceUpgradeTask</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4750</td>
<td>Contentbylabel macro does not work if there is no space separating label names</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4469</td>
<td>Favorites Pages shows only 5 page!!</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4807</td>
<td>Cannot sort attachments by name</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4802</td>
<td>Disabled accounts still receive (blank) daily reports</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4776</td>
<td>Upgrade tasks do not flush the cache after updating content</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4765</td>
<td>Space Descriptions may not have their Space ID set, causing problems when the space is referenced</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
</tbody>
</table>

**Release Notes 2.0.3**

Confluence 2.0.3 is a maintenance release. It contains a upgrade of the WYSIWYG editor and numerous bug fixes.

2.0.3 is a free upgrade for all customers who purchased their Confluence license after December 12th, 2004.

**Who should upgrade?**

Confluence 2.0.3 is a recommended upgrade for all users who are having problems with the WYSIWYG editor. This release contains an upgrade to the WYSIWYG module that contains numerous bug fixes.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.0, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!
If you are upgrading from Confluence 1.4.4 or earlier of Confluence, please check the release-notes of the other major Confluence releases:

- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3

**Changes in 2.0.3**

See also: Issues resolved for 2.0.3

- Upgrade to TinyMCE 2.0.1 (CONF-4808)
- Backup restore progress monitor does not refresh during restore, making it look like the backup is hanging (CONF-4794)
- Information leak when accessing url directly (CONF-4794)
- Personal labels showing up on the {contentbylabel} macro (CONF-4894)

**Issues resolved for 2.0.3**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (23 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>CONF-4880</td>
</tr>
<tr>
<td>CONF-4875</td>
</tr>
<tr>
<td>CONF-4819</td>
</tr>
<tr>
<td>CONF-4893</td>
</tr>
<tr>
<td>CONF-4846</td>
</tr>
<tr>
<td>CONF-4837</td>
</tr>
<tr>
<td>CONF-4835</td>
</tr>
<tr>
<td>CONF-4510</td>
</tr>
<tr>
<td>CONF-4894</td>
</tr>
<tr>
<td>CONF-4849</td>
</tr>
<tr>
<td>CONF-4895</td>
</tr>
<tr>
<td>CONF-4794</td>
</tr>
<tr>
<td>CONF-4822</td>
</tr>
<tr>
<td>CONF-4808</td>
</tr>
<tr>
<td>CONF-4809</td>
</tr>
<tr>
<td>CONF-4824</td>
</tr>
<tr>
<td>CONF-4843</td>
</tr>
<tr>
<td>CONF-4752</td>
</tr>
</tbody>
</table>
Release Notes 2.1

Atlassian is happy to offer our customers an early Christmas present: Confluence 2.1 (otherwise known as Bogan). Existing customers who wish to upgrade, or new users who wish to try out Confluence for 30 days, can download Confluence from the Atlassian website: http://www.atlassian.com/software/confluence

Bogan is the Sixth major update to Confluence, offering vastly improved LDAP integration through our new atlassian-user library, as well as introducing the much-requested autosave feature to protect you from losing your precious edits.

Upgrading from 2.0

Upgrading Confluence should be pretty easy: you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

Plugin Compatibility
Any plugin written for Confluence 2.0 and earlier that interfaces with the User system will need to be updated for Confluence 2.1. Plugin developers can find more information on the Atlassian developer blog.

LDAP Integration Configuration Changes
Customers who have already integrated Confluence with LDAP through the OSUser LDAP providers will need to make changes to their osuser.xml file before upgrading. You can find full details in step 3 of LDAP Authentication with OSUser.

OSUSeR or Seraph Customisations
Customers who have performed their own customisations on OSUser or Seraph within Confluence must be sure to test their changes with Confluence 2.1 before upgrading any production system. While we have tried to maintain backwards compatibility, the integration of atlassian-user may adversely affect existing customisations.

Upgrading from 1.4 and earlier

Users upgrading directly from 1.4 or earlier should also read the 2.0 Release Notes for caveats regarding the 1.4 -> 2.0 upgrade.

Contents

1. New Features
2. Improvements
3. Notable Bug-fixes

See also: Issues Resolved for 2.1

New Features

Autosave

If you’ve used wikis for long enough, you know the pain of losing a long, involved editing session to a browser crash, session timeout, or just not thinking and clicking on a link to another page. As of Confluence 2.1, this is no longer a problem: the most you’ll lose is half a minute of your work.

Every thirty seconds (this interval is configurable by the global administrator), the browser will save your unfinished edit to the server. This autosave will hang around until you either hit the “Save” or “Cancel” button yourself, even if the server is restarted. So if you lose your changes, all you have to do is navigate back to the edit page, and will be given the chance to begin editing again where you left off.
You can view your outstanding autosaved documents from your profile under the "Drafts" tab.

<table>
<thead>
<tr>
<th>Title</th>
<th>Last Saved Date</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuring a Large Confluence Installation</td>
<td>2005-12-19 23:16:04.962</td>
<td>Resume editing</td>
</tr>
</tbody>
</table>

**Concurrent Edit Warnings**

A useful side-effect of autosave is that now Confluence has an accurate way of measuring who is editing which page. If two people start editing the same page at the same time, Confluence will display a warning message telling you who else is editing the page. You can then negotiate between yourselves who gets to save first.

Even better, Confluence will let you know how long it was since the other editor made any changes to the page, so if somebody has just left their browser open on the edit page for a couple of hours, you'll know you can sneak your changes in while they're asleep.

**User Management**

Confluence 2.1 sees the landing of our new Atlassian user management library. Most Confluence customers will not see any significant change from this move, but for anyone looking to integrate Confluence with an external user-base (especially LDAP), Atlassian-user is a big step forward.

Confluence can now integrate fully with an LDAP directory server, without the previously annoying practice of having to mirror the users and groups locally on Confluence: Confluence LDAP Documentation Index

**Improvements**

**Performance**

A lot of work was done improving the performance of the Confluence dashboard and edit pages, especially for customers who may have thousands of spaces and hundreds of thousands of pages in their Confluence installation. Both of these pages should now respond significantly faster.

**Other**

- You can now manually set the MIME type under which embedded objects should be served – CONF-4906
- The system info and error pages include more information about your database configuration – CONF-4957
- Email attachments no longer show up on the recently updated list (this seems to have regressed in the final release) – CONF-4684
- Added an icon mapping for sub-tasks in the jiraissues macro – CONF-4921
- Allow attached Windows Bitmap files to be displayed as embedded resources – CONF-4922

**Notable Bug-fixes**

Confluence 2.1 includes all bug-fixes that were made up to Confluence 2.0.3, and also includes fixes for the following issues:

- Preview now works correctly when rich text editor is disabled – CONF-4935
- Info tab no longer shows incoming links from pages in the trash – CONF-4815
- Trying to set a page as its own parent now presents a validation error instead of a system error – CONF-4941
- Confluence no longer removes every second character from the filenames of email attachments – CONF-4938
JiraJdbcProfileProvider problems reliably accessing profile information from JIRA resolved – CONF-4933
Unresolved images now replaced with placeholders in WYSIWYG editor – CONF-4929
Removing the {excerpt} macro from a page now deletes the excerpt – CONF-4918

The Confluence 2.1 Team

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Atlassian-User
Nick Faiz

Documentation
Vidya Madabushi

Oversight & Management
Mike Cannon-Brookes
Scott Farquhar

Issues Resolved for 2.1

Errors were reported by the JIRA trusted connection.

- APPUNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (43 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-4335</td>
<td>Upgrade task - osuser2hbernate</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4227</td>
<td>Replace group select menus with a GroupPicker</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4692</td>
<td>GroupPicker should replace select menus of groups</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4711</td>
<td>Formalize set up procedure r.e. existing users and existing groups in a delegation</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4859</td>
<td>Broken page table structure in Edit mode after upgrade from 1.4.4 to 2.0.1</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4693</td>
<td>GroupPicker in edit space perms</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4696</td>
<td>GroupPicker in global admin permissions</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4694</td>
<td>GroupPicker in page permissions form</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-1193</td>
<td>Warn when page is concurrently edited by multiple users</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-973</td>
<td>Autosave of editing box</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4217</td>
<td>Add GMail style auto-save when editing new or existing pages</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4233</td>
<td>Create utility to move Entites from OSUser tables into Atlassian User tables.</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4232</td>
<td>Create new rdms structure for a Hibernate implementation of Atlassian User</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4499</td>
<td>SmartListManager performance degrades as the number of groups increases</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4234</td>
<td>Global Export should only export users in Confluence's database.</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-1806</td>
<td>Merge Feature for Pages that Were Edited at the Same Time</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4906</td>
<td>Allow syntax to override the file MIME type in embedded objects</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4236</td>
<td>Activate/deactive user now manipulates the user's relation to USE_CONFLUENCE permission</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4965</td>
<td>Improve dashboard performance</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Release Notes 2.1.1

Confluence 2.1.1 is a maintenance release that resolves some issues users may have encountered using Confluence 2.1, including issues related to user management, the editing UI and email notifications.

2.1.1 is a free upgrade for all customers who purchased their Confluence license after December 24th, 2004.

**Who should upgrade?**

Due to the severity of the issues that it resolves, Confluence 2.1.1 is a recommended upgrade for all Confluence customers.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.1, you can find instructions here. We strongly
recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 2.0.3 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

Changes in 2.1.1

See also: Issues resolved for 2.1.1

- Users can not change their passwords CONF-5005
- Cursor jumps to the beginning of the rich text editor periodically CONF-4993
- Change comments not being displayed correctly CONF-4979
- Email notifications do not correctly report the user who made the change CONF-4973
- Pages can not be created or saved in some custom atlassian-user or OSUser configurations CONF-4978

Issues resolved for 2.1.1

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (9 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-4984</td>
<td></td>
<td></td>
<td>Children macro gives bad error message when page not found</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4988</td>
<td></td>
<td></td>
<td>JiraJdbcPropertySet is read only</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4978</td>
<td></td>
<td></td>
<td>Useraccounts are read-only when using LDAP user management</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4993</td>
<td></td>
<td></td>
<td>The cursor jump to beginning of first line when you stop typing a few seconds in the wysiwyg editor</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5005</td>
<td></td>
<td></td>
<td>Users can not change there passwords.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4979</td>
<td></td>
<td></td>
<td>Comments are being rendered litterally as $page.renderedVersionComment</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4974</td>
<td></td>
<td></td>
<td>Concurrent modification exception in SimpleDisplayServlet</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4973</td>
<td></td>
<td></td>
<td>Some notifications are not reporting the user</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4980</td>
<td></td>
<td></td>
<td>Autosave in rich text resets cursor</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
</tbody>
</table>

Release Notes 2.1.2

Confluence 2.1.2 is a maintenance release that resolves some issues users may have encountered using Confluence 2.1.1 or earlier, including issues related to page editing, Javascript errors in Firefox and Safari and PDF exports.

2.1.2 is a free upgrade for all customers who purchased their Confluence license after January 12th, 2005.

Who should upgrade?

Confluence 2.1.2 fixes a number of bugs found in Confluence 2.1.1 and earlier. Customers are recommended to upgrade if they are experiencing any of the issues fixed in this release.

Upgrade Procedure
If you are using MySQL, please apply the patch detailed in this bug report http://jira.atlassian.com/browse/CONF-5153. That is, please download 2.1.2, extract it, and copy the above mentioned patch into the unpacked 2.1.2 distribution and then go about your upgrade. We will be releasing a version with this patch bundled soon.

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.1 or 2.1.1, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 2.0.3 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

Changes in 2.1.2

See also: Issues resolved for 2.1.2

Improvements

- JiraPortlet macro now has an optional "baseurl" parameter for when Confluence accesses JIRA from a different URL to regular users – CONF-4897
- Children listed at the bottom of pages are now sorted alphabetically – CONF-4878
- Confluence warns space administrators when they permit anonymous access to a space, but global anonymous access is disabled – CONF-4898

Bugs Fixed

- NS_ERROR_NOT_AVAILABLE popup no longer appears when editing certain pages in Firefox – CONF-5038
- "Error converting parameters" popup no longer appears when editing certain pages in Safari – CONF-4976
- Edit page no longer returns NoSuchElementException error under some circumstances – CONF-5007
- "Last week" and "Last month" searches no longer fail when time period spans the new year – CONF-5056
- News items marked as favourites are now listed on the dashboard – CONF-4998
- Mail attachments no longer show up in recent changes on dashboard – CONF-4684
- PDF Export no longer fails with error parsing background-color attributes – CONF-5026
- Anonymous users do not cause a crash when exporting a space – CONF-5129
- Disabling a servlet plugin no longer causes a NullPointerException – CONF-5021
- Notification emails no longer prepend the site's context path twice to certain URLs – CONF-5024
- It is now possible to move a page between spaces and change its parent in the same operation – CONF-5103
- Dashboard favourite selection now works in Opera 8.5 – CONF-5012
- Username links no longer cause a NullPointerException in certain configurations – CONF-5028

Issues resolved for 2.1.2

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; "confluence:4557196"
<table>
<thead>
<tr>
<th>Ticket</th>
<th>Description</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-5059</td>
<td>Link to 'discard' draft does not discard draft unless clicked twice.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5046</td>
<td>Line separating drafts under 'User Profile' breaking up when draft is without a title</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5028</td>
<td>Linked user name Wiki tag crashes Confluence</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5024</td>
<td>Notification emails are adding an additional confluence directory (contextPath) in certain URL's</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5087</td>
<td>Confusing alert message when you have a draft on page create</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5082</td>
<td>Changes to the length of &quot;Recently Updated&quot; list on dashboard.action page is lost immediately after visiting another page</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4976</td>
<td>Drafts JavaScript error when editing page on Safari</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5038</td>
<td>wysiwyg-javascript exception NS_ERROR_NOT_AVAILABLE</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4684</td>
<td>I don't want email attachments (e.g. digital sigs) to show up in the 'recently updated' list</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5089</td>
<td>System info page is showing $action.getDatabaseDriverName()</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4998</td>
<td>News items don't appear in favorite pages section</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4996</td>
<td>NullablePointerException when searching for users via the Manage User Administration screen</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5026</td>
<td>Crash generating PDF from the online documentation</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4829</td>
<td>Pop-up page for inserting links doesn't size properly</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5129</td>
<td>IllegalArgumentException when exporting a space as the anonymous user</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5126</td>
<td>Warning icon in the concurrent editing message does not respect the context path</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5141</td>
<td>Upgrade stalls on AdditionalIndexes1UpgradeTask</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5118</td>
<td>Drafts tab is not visible in the user profile when external user management is enabled</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5119</td>
<td>Email format in Profile and notifications pages should be consistent</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5154</td>
<td>User picker in Edit Space Permissions page is only accessible by super users</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5052</td>
<td>Explicit background colours break PDF export</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5056</td>
<td>Search by &quot;Last Week&quot; and &quot;Last Month&quot; fail in the new year.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5103</td>
<td>When moving a page, you can't change space and parent in same step</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6194</td>
<td>Editing space layouts edits the main layout instead</td>
<td>Closed</td>
<td>Duplicate</td>
</tr>
<tr>
<td>CONF-5008</td>
<td>NPE getChangesSinceLastEdit Error getting changes since last edit</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5100</td>
<td>Anonymous comment warning image does not respect the context path</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
Release Notes 2.1.3

Confluence 2.1.3 is a maintenance release that resolves some issues users may have encountered using Confluence 2.1.2 or earlier, including issues related to Rich Text editing, LDAP user management, restoring to MySQL, and Unicode on MS SQL Server. 2.1.3 is a free upgrade for all customers who purchased their Confluence license after January 23rd, 2005.

Who should upgrade?

Confluence 2.1.3 fixes a number of bugs found in Confluence 2.1.2 and earlier. Customers are recommended to upgrade if they are experiencing any of the issues fixed in this release.

Confluence is a recommended upgrade for all customers using Confluence’s new atlassian-user LDAP user management with dynamic group mappings. For more information see USER-95

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.1 to 2.1.2, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 2.0.3 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

Changes in 2.1.3

See also: Issues resolved for 2.1.3

Improvements

- You can now suppress camel-case linking with \lbrace nl:CamelCaseWord \rbrace – CONF-3700
- Confluence RSS macro is now compatible with Google News RSS – CONF-4892
- The \lbrace contentbylabel \rbrace macro supports a wider range of options – CONF-5137

Bugs Fixed

- Many fixes related to Rich Text editing, and switching between Rich Text and Wiki Markup editing.
- Further PDF export fixes – CONF-4930
- The upload option in the attachments macro works – CONF-5127
- Fixed a bug where Word exports would open in the wrong application – CONF-5163
- Handling of situation where site exceeds its licensed user limit and then removes users is improved – CONF-5208
- Restoring a site to MySQL now properly removes and re-creates database tables – CONF-5153
- Confluence now uses correct NVARCHAR type for multibyte text in MS SQL Server – CONF-5204

Issues resolved for 2.1.3

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (38 issues)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td><strong>Key</strong></td>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td><img src="image" alt="CONF-5173" /></td>
<td>CONF-5173</td>
<td>Add License ID to View License Page</td>
</tr>
<tr>
<td><img src="image" alt="CONF-5204" /></td>
<td>CONF-5204</td>
<td>Merge SQLServerIntDialect from confluence_2_0_stable branch to HEAD and confluence_2_1_stable</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>CONF-3783</td>
<td>Strike through does not work for links</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5380</td>
<td>Allow Editing mode to be a preference</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-3700</td>
<td>Suppression of CamelCase link generation for certain words</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5212</td>
<td>Display database connection URL/datasource information on the system info page</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5208</td>
<td>You have exceeded the maximum number of users for your license error</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-5190</td>
<td>Catch all errors that may be thrown from a macro</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4892</td>
<td>Google News RSS requires a user agent for access</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5137</td>
<td>Add more options to contentbylabel macro</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-5211</td>
<td>Handle datasource driver exceptions on the system info page gracefully</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5169</td>
<td>SearchEntitiesAction displays $user.name, $user.fullName, $user.email instead of the proper values when searching for a group</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5167</td>
<td>Links with an apostrophe fails to render</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4260</td>
<td>JTidy removes empty divs, spans</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4960</td>
<td>Mixing ordered and unordered lists confuses WYSIWYG at times</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5077</td>
<td>JTidy error message when saving edited page</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5153</td>
<td>Error restoring on MySQL</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4251</td>
<td>User management has design flaw !!</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5342</td>
<td>User Picker throws xwork ConfigurationException</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5165</td>
<td>Ampersands and backslashes multiply...</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5163</td>
<td>Export a page as a word document opens exportword.action in IE instead of pagename.doc</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-5175</td>
<td>jira external users management: Null pointer exception after try to browse all users or all group in confluence administrative task</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-5182</td>
<td>Switching between Rich Text and Wiki Markup loses content between (html) macro tags</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4874</td>
<td>Image popup shows ${lang_conf_ok} and ${lang_conf_cancel} after you have attached an image.</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4930</td>
<td>Error trying to export confluence 2.0 documentation to PDF</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4865</td>
<td>Rich Text editor can mangle horizontal rule tag (----)</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4896</td>
<td>Table containing heading is broken by WYSIWYG editor.</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4915</td>
<td>WYSIWYG editor not accepting certain edits on Save</td>
<td>Resolved</td>
</tr>
</tbody>
</table>
Confluence 3.0 Documentation

CONF-4847 Using header notation and the children macro on the same line brings up a JavaScript alert
- Resolved
- Fixed

CONF-4624 Losing html macro contents in Rich Text editor
- Closed
- Duplicate

CONF-4681 Daily notification email displays wrong date.
- Resolved
- Fixed

CONF-4493 [code] element produces syntax errors when trying to preview
- Closed
- Cannot Reproduce

CONF-5127 Option 'upload' does not work for the attachment macro
- Closed
- Fixed

CONF-5201 HTML produced when newline typed in table cell doesn't produce correct markup
- Resolved
- Fixed

CONF-5049 Bad behaviour of the Wysiwyg editor with paragraphs
- Resolved
- Fixed

CONF-5042 Link contents not changed when a link is edited directly
- Resolved
- Fixed

CONF-3351 Sign-up takes 20 minutes to load
- Resolved
- Fixed

CONF-5233 Cross-site scripting vulnerability in the full name user profile field
- Closed
- Fixed

Release Notes 2.1.4

Confluence 2.1.4 is a maintenance release that resolves some issues users may have encountered using Confluence 2.1.3 or earlier. Confluence 2.1.4 fixes more than 55 issues, including bugs related to space import/export, the WYSIWYG editor, page breadcrumbs, and many more.

2.1.4 is a free upgrade for all customers who purchased their Confluence license after February 16th, 2005.

Who should upgrade?

Confluence 2.1.4 fixes a number of bugs found in Confluence 2.1.3 and earlier. Customers are recommended to upgrade if they are experiencing any of the issues fixed in this release.

Confluence is a recommended upgrade for all customers using Confluence’s new atlassian-user LDAP user management, as it fixes important issues related to user login validation.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from an earlier Confluence 2.1 release, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are running a Sybase or Microsoft SQL Server database, please replace confluence/WEB-INF/classes/com/atlassian/confluence/upgrade/UpgradeUtils.class with this version before upgrading.

You should also install this if your upgrade fails with the message: Session is currently disconnected

If you are upgrading from Confluence 2.0.3 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

Changes in 2.1.4

More than 55 issues were resolved between 2.1.3 and 2.1.4. For the complete list, see: Issues resolved for 2.1.4

Note about markup for embedded content

A bug was fixed in 2.1.4 that previously allowed spaces as attribute separators in embedded content wiki markup (CONF-5406). This means
now works correctly, but !image.jpg|border=1 alt=test! doesn't. The correct and documented way to write the latter continues to be !image.jpg|border=1,alt=test!.

**Improvements**

- `{livesearch}` macro results can now be limited to a particular space – CONF-3432
- A setting was added to General Configuration to control the maximum number of attachments that can be uploaded at once – CONF-5447
- A setting was added to General Configuration to enable or disable GZip content encoding – CONF-5257
- "Insert Link" and "Insert Image" now work correctly on Safari in OS X 10.4.4 and later – CONF-5435
- A draft is automatically saved when moving from 'Edit' to 'Preview' – CONF-5366
- A `getPermissionsForUser` method was added to the remote API to allow administrators to retrieve the permissions of particular users – CONF-5439

**Notable Bugs Fixed**

- Many fixes related to the maintenance of the ancestors table while moving or renaming pages, which may have resulted in the misplacing of page breadcrumbs or inherited page-level permissions – CONF-5104, CONF-5243, CONF-5244
- Many fixes related to Rich Text editing, including the handling of tables and whitespace – CONF-5299, CONF-5231, CONF-5492, CONF-5294, CONF-5324, CONF-5247, CONF-5362, CONF-5265
- Space import no longer overwrites part of global configuration – CONF-5370
- Confluence no longer tries to create indexes with names bigger than DB2 can handle – CONF-5316
- "Insert Link" and "Insert Image" no longer erase contents of edit fied in Safari on OS X 10.4.4 and later – CONF-5329
- Links from the `{labels}` macro are now space-relative – CONF-5346
- Emoticons no longer mistaken for embedded image markup – CONF-3369
- "Profile:" no longer mistaken as the start of a file: URL

**Issues resolved for 2.1.4**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: [0]; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (68 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>CONF-5263</td>
</tr>
<tr>
<td>CONF-5403</td>
</tr>
<tr>
<td>CONF-5401</td>
</tr>
<tr>
<td>CONF-4546</td>
</tr>
<tr>
<td>CONF-5257</td>
</tr>
<tr>
<td>CONF-5290</td>
</tr>
<tr>
<td>CONF-5366</td>
</tr>
<tr>
<td>CONF-4353</td>
</tr>
<tr>
<td>CONF-5382</td>
</tr>
<tr>
<td>CONF-5435</td>
</tr>
<tr>
<td>CONF-3282</td>
</tr>
<tr>
<td>CONF-5439</td>
</tr>
<tr>
<td>CONF-3432</td>
</tr>
<tr>
<td>CONF-5447</td>
</tr>
</tbody>
</table>
CONF-5303 Using JIRA base-URL for JIRA-ISSUES links  
Resolved  
Fixed

CONF-5770 Allow enabling/disabling the WYSIWYG-Editor per User  
Resolved  
Fixed

CONF-5244 Page breadcrumbs get out of sync when moving pages between spaces  
Resolved  
Fixed

CONF-5266 Type the word "Profile:" it gets messed up  
Resolved  
Fixed

CONF-5262 NullPointerException when include macro references an invalid space  
Resolved  
Fixed

CONF-5265 Weird modifications done by the Rich Text editor  
Resolved  
Fixed

CONF-5241 Getting ClassCastException when using seraph-paths.xml to secure additional directories in confluence webapp  
Closed  
Fixed

CONF-5267 breadcrumb for when you view the "drafts" tab from your profile is wrong.  
Resolved  
Fixed

CONF-5304 Space Index always shows even restricted pages  
Resolved  
Fixed

CONF-5349 In the plain website theme, users with edit permission should see the standard Confluence interface.  
Resolved  
Fixed

CONF-5247 WYSIWYG editor replaces "src" with "xsrc" in code snippets  
Resolved  
Fixed

CONF-4687 System error clicking on view change  
Closed  
Fixed

CONF-5200 Anchor Link deleted when using WYSIWYG editor.  
Resolved  
Fixed

CONF-5406 Embedded content properties split on spaces as well as commas  
Resolved  
Fixed

CONF-5399 Alt tags on images are broken  
Resolved  
Fixed

CONF-5434 Remote calls to getPermissions() fail if user is not superuser  
Closed  
Fixed

CONF-5329 "Insert Link" feature clears whole edit area in Safari  
Resolved  
Fixed

CONF-5387 When a Site Homepage is set to a Space in General Config, user profiles set to Dashboard don't go to the dashboard but to the Site Homepage  
Closed  
Fixed

CONF-5492 table mangled by rich text editor  
Resolved  
Fixed

CONF-5503 exporting a space from a test server and importing to a live system replaced the site welcome message on the live system  
Resolved  
Duplicate

CONF-5370 Space Export/Import transfer global bandana and conf/*  
Resolved  
Fixed

CONF-5448 page version numbers off by 1 in "page edited" HTML email  
Resolved  
Duplicate

CONF-5521 Failed to upgrade from 2.1.3 to 2.1.4  
Closed  
Duplicate

CONF-5316 On upgrade from 2.0 to 2.1.3 failed to create two indexes since names longer than 18 chars.  
Resolved  
Fixed

CONF-5464 Group Picker only shows first 49 groups with no option for paging  
Resolved  
Fixed

CONF-5243 Ancestors table gets out of sync when moving pages to another space  
Resolved  
Fixed
<table>
<thead>
<tr>
<th>Issue ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-5340</td>
<td>Change URL has wrong version number in update email</td>
</tr>
<tr>
<td>CONF-5252</td>
<td>Group search shows 10 groups, but no page controls</td>
</tr>
<tr>
<td>CONF-5498</td>
<td>Breadcrumbs showing wrong path after page with children moved</td>
</tr>
<tr>
<td>CONF-5681</td>
<td>Links to attachments break when page re-edited</td>
</tr>
<tr>
<td>CONF-5659</td>
<td>Attachment link is incorrect...</td>
</tr>
<tr>
<td>CONF-5313</td>
<td>Watch Mail View Changes link incorrect</td>
</tr>
<tr>
<td>CONF-5355</td>
<td>Cannot store unicode characters in Site Welcome Message</td>
</tr>
<tr>
<td>CONF-5107</td>
<td>NullPointerException on edit page</td>
</tr>
<tr>
<td>CONF-5346</td>
<td>Labels macro links aren't space relative</td>
</tr>
<tr>
<td>CONF-5331</td>
<td>rss: Error parsing RSS feed after editing General Configuration</td>
</tr>
<tr>
<td>CONF-5293</td>
<td>Embedded images do not contain full URL in Word exports</td>
</tr>
<tr>
<td>CONF-5324</td>
<td>loosing anchor links</td>
</tr>
<tr>
<td>CONF-5321</td>
<td>WYSIWYG editor is introducing spaces</td>
</tr>
<tr>
<td>CONF-5327</td>
<td>(spaces) tag renders an error in Preview during edition</td>
</tr>
<tr>
<td>CONF-5352</td>
<td>Class Cast Exception on Blog versioning</td>
</tr>
<tr>
<td>CONF-5235</td>
<td>Blog/News headings style setting forces color to black</td>
</tr>
<tr>
<td>CONF-5249</td>
<td>Bug in HandleProfileAttachmentsAction.isPermitted()?</td>
</tr>
<tr>
<td>CONF-5487</td>
<td>NullPoint Exception listing users of LDAP group</td>
</tr>
<tr>
<td>CONF-5410</td>
<td>Text-only notification email of new blog post does contain unresolved velocity variable</td>
</tr>
<tr>
<td>CONF-5362</td>
<td>Anonymous user Edit &amp; immediate Cancel produces NullPointerException</td>
</tr>
<tr>
<td>CONF-5299</td>
<td>WYSIWYG space-adding errors</td>
</tr>
<tr>
<td>CONF-3369</td>
<td>(!) emoticon sometimes interpreted as image link</td>
</tr>
<tr>
<td>CONF-5104</td>
<td>Page level permissions set on a page are not updated on page move</td>
</tr>
<tr>
<td>CONF-5294</td>
<td>Existing anchor links are converted to page links by Rich Text editor</td>
</tr>
<tr>
<td>CONF-5210</td>
<td>Adding lines in bullet lists breaks things</td>
</tr>
<tr>
<td>CONF-5250</td>
<td>Rich text editor corrupts tables with bullets and newlines</td>
</tr>
</tbody>
</table>
Release Notes 2.1.5

Confluence 2.1.5 is a maintenance release that resolves some issues users may have encountered using Confluence 2.1.4 or earlier. Confluence 2.1.5 fixes around 50 issues, including a number of fixes for LDAP support, the WYSIWYG editor, and other areas. 2.1.5 is a free upgrade for all customers who purchased their Confluence license after March 16th, 2005.

Confluence 2.1.5 has a problem which disables the rich text editor link dialog. Please replace the file WEB-INF/classes/com/atlassian/confluence/user/actions/PagePickerAction.properties with this file:

```properties
PagePickerAction.properties

This is fixed in 2.1.5a.

Known Issues in 2.1.5a

Anonymous users may get a Javascript error under some circumstances. See CONF-5765 for details and a patch.

When using LDAP user management, changing passwords for local users won't work. See CONF-5775 for details and a patch.

Who should upgrade?

Confluence 2.1.5 fixes a number of bugs found in Confluence 2.1.4 and earlier. Customers are recommended to upgrade if they are experiencing any of the issues fixed in this release.

Confluence is a recommended upgrade for all customers using Confluence's new atlassian-user LDAP user management, as it fixes important issues related to LDAP integration.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from an earlier Confluence 2.1 release, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 2.0.3 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

Changes in 2.1.5

More than 48 issues were resolved between 2.1.4 and 2.1.5. For the complete list, see: Issues resolved for 2.1.5

Improvements

- LDAP queries are cached to improve performance - CONF-5288
- Administrators can insert custom HTML on every Confluence page, see Administration, Custom HTML - CONF-5350
- Tables created in the rich text editor don't have non-breaking spaces added to each cell - CONF-5044
- News improvements - Info tab available including list of version, News can be exported as PDF - CONF-1989, CONF-5582, CONF-5594

Notable Bugs Fixed

- Anchor, user profile and attachment links now round-trip properly in the rich text editor - CONF-5678
- Paging of LDAP users works properly - CONF-5438
- Servlet plugins can be disabled - CONF-5598
- Forgotten username emails work again - CONF-5530
- User profiles fixes with LDAP - CONF-5225, CONF-5549

Issues resolved for 2.1.5

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]
## JIRA Issues (57 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONF-5549</td>
<td>The facility to operate on the LDAP profile (based on AtlassianUser) not only in the ReadOnly mode</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5350</td>
<td>Ability to add stuff to every page on Confluence (e.g., omniture tracking)</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-1989</td>
<td>No blog entry versioning?</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5594</td>
<td>Export of news as PDF</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5044</td>
<td>Do we need   in table cells?</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5621</td>
<td>Include latest release of chart macro</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5582</td>
<td>Display &quot;Info&quot; tab for News/Blog posts</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5513</td>
<td>Unserializable objects in the session: bucket.search.lucene.SearchWordsLister</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-4791</td>
<td>Error generating PDF when the title contains a ' &amp; '.</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5533</td>
<td>Access denied on URL returned by remote API exportSpace()</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5488</td>
<td>Site Welcome Message (unicode) changed to question marks after restarting server</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5517</td>
<td>Confluence 2.1.4 fails to compile due to missing maven dependencies</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5511</td>
<td>Upgrade from 2.0.3 to 2.1.4 fails on ReduceIndexNameLengthUpgradeTask for index sp_permusername_idx</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5530</td>
<td>Forgotten username doesn't work</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5497</td>
<td>NPE ErrorQueuedTaskQueue</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5584</td>
<td>Page restrictions UI doesn't update correctly</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5591</td>
<td>Breadcrumb expansion does not work on left-nav theme</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5601</td>
<td>Merge performance is incredibly bad on long pages</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5598</td>
<td>Servlet plugins do not disable or uninstall</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5225</td>
<td>User profiles not editable with LDAP user management</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5609</td>
<td>ClassCastException on Membership Check</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5605</td>
<td>Users with no groups still receive daily update emails</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5651</td>
<td>Gallery macro thumbnails height and width attributes are sometimes -1</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5661</td>
<td>DWREngine failure in IE and</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-5654</td>
<td>Page titles with a period '.' breaks</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>Conf</td>
<td>Description</td>
<td>Status</td>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>CONF-5547</td>
<td>The error by adding new group when using LDAP (based on AtlassianUser)</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5662</td>
<td>make ALT+s submit the comment form</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5630</td>
<td>Advanced page is not displaying Space Labels</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5664</td>
<td>Can't create multiple space labels on space admin</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5658</td>
<td>Typist's error: missing single quote</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5673</td>
<td>Demonstration space has broken link on Thumbnail page</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5687</td>
<td>Jira Issues macro seems to add 4 issues when using the 'count' argument</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5525</td>
<td>Error formatting macro: navmap: java.lang.ClassCastException</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5693</td>
<td>Unknown Group error on setting page level permission</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5695</td>
<td>NullpointerException thrown from MergedPager</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5438</td>
<td>Pagination of users is buggy beyond the 10th paged result</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5699</td>
<td>Missing image button in rich text editor when adding a new comment</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5662</td>
<td>Name of file downloads doesn't work for non-ASCII characters</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5675</td>
<td>Fetching Mail leads into exception</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5578</td>
<td>Mail Import FAIL</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5105</td>
<td>When using LDAP, In &quot;Manage Users&quot; fullname is incorrectly displayed sometimes</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6151</td>
<td>Link Properties in Rich Text Mode Not Working</td>
<td>Closed</td>
<td>Handled by Support</td>
<td></td>
</tr>
<tr>
<td>CONF-5437</td>
<td>Text +like this+ should use the sematic &lt;ins&gt; rather than &lt;u&gt;.</td>
<td>Closed</td>
<td>Won't Fix</td>
<td></td>
</tr>
<tr>
<td>CONF-6571</td>
<td>CLONE - Page titles with a period '.' breaks</td>
<td>Resolved</td>
<td>Cannot Reproduce</td>
<td></td>
</tr>
<tr>
<td>CONF-8654</td>
<td>CLONE - Page titles with a period '.' breaks daily backup</td>
<td>Resolved</td>
<td>Handled by Support</td>
<td></td>
</tr>
<tr>
<td>CONF-3645</td>
<td>Malformed links in Daily Change Email</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4614</td>
<td>When downloading Multi-byte named attachments, Its character is broken.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5709</td>
<td>ClassCastException when trying to fetch members</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5777</td>
<td>WYSIWYG Linking Pop-up Does Not Work - specifying link and clicking OK results in nothing</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5746</td>
<td>System error when trying to set permissions for a space</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5730</td>
<td>Create external link in WYSIWYG does not work</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>
Atlassian is proud to announce the release of Confluence 2.2, otherwise known as Shoalhaven. Existing customers who wish to upgrade, or new users who wish to try out Confluence for 30 days, can download Confluence from the Atlassian website:
http://www.atlassian.com/software/confluence

Shoalhaven is the seventh major update to Confluence (in two years!). It introduces 'personal spaces', support for localisation/internationalisation, CAPTCHA spam protection, a multitude of new extension points for plugin developers, a simpler LDAP configuration syntax, and more.

**Upgrading from 2.1**

Upgrading Confluence should be pretty easy: you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

- **MySQL Driver Support**
  For users using MySQL with Confluence 2.2 (or higher), please ensure that you are using the latest (3.1.12) MySQL Java Connector. Earlier versions of the MySQL connector have a bug which may prevent Confluence from upgrading successfully. (more information below)

- **LDAP Authentication**
  If you are currently using LDAP authentication through OSUser (that is, you adjusted your osuser.xml file), please do not upgrade to 2.2. This feature is currently unavailable and an issue has been filed for it here. This issue has been resolved in Confluence 2.2.1.

- **User Management Bug**
  You must apply the patch attached on this bug report to be able to create users in this version. This issue has been resolved in Confluence 2.2.1.

- **Index Rebuilding**
  Upgrading to 2.2 will trigger a rebuild of Confluence’s search index. This will cause certain features such as search, the dashboard and RSS feeds to behave unpredictably for up to a few minutes after upgrading.

- **LDAP Integration Configuration Changes**
  The configuration file syntax for atlassian-user has changed. Customers who configured Confluence 2.1 to use AtlassianUser LDAP integration must follow the instructions on this page.

- **Anonymous Permission Changes**
  The way that anonymous permissions are applied to users who have logged in has changed. Administrators should understand how they have changed before upgrading.
Plugin Loading Changes

Prior to Confluence 2.2, it was possible for an outdated plugin, or a plugin with unsatisfied dependencies, to break the entire plugin subsystem. Confluence 2.2 is much more careful about loading plugins, and isolating them if they break. This may, however, cause Confluence to refuse to load an entire plugin, simply because one of its contained plugin modules will not load.

Upgrading from 2.0 and earlier

Users upgrading directly from 2.0 or earlier should also read the 2.1 Release Notes for caveats regarding the 2.0 -> 2.1 upgrade.

Contents

1. New Features
2. Improvements
3. Notable Bug-fixes
4. Important note for MySQL users

See also: Issues Resolved for 2.2

New Features

Personal Spaces

Two of the most frequent questions we get from Confluence customers have been: "How do I give my users their own wiki?" and "How do I give my users their own blog?" It seems everybody needs a little Personal Space.

Personal spaces belong to particular users, and rather than being listed on the dashboard, are available from the user's profile. (Future versions of Confluence will feature a 'people browser' to make it easier to discover the interesting personal spaces on your server). They can contain pages and news items like any other space, be searched and browsed. They can be kept private, or opened up so the whole world can view and edit them, just like global spaces.
Your personal space is your own private workspace within Confluence. You can optionally let other people view or contribute to it.

**Who can contribute to your personal space?**
You can customize these permissions once the space is created.

<table>
<thead>
<tr>
<th>Choose who can view content:</th>
<th>Choose who can contribute (create and edit) content:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Me</td>
<td>Me</td>
</tr>
<tr>
<td>Registered users - anyone logged into Confluence</td>
<td>Registered users - anyone logged into Confluence</td>
</tr>
<tr>
<td>Anonymous - anyone, logged in or not</td>
<td>Anonymous - anyone, logged in or not</td>
</tr>
</tbody>
</table>

**Choose Theme**
To change the theme of this space, select one below.

- **Default Theme**
  Use the globally configured look and feel. You can customise colour schemes and layouts manually.

- **Left Navigation Theme**
  Provides a navigation bar on the left-hand side of the screen.

Confluence’s search and RSS builder interfaces have been updated to make it easy to choose whether you’re interested in personal spaces or not.

Oh, and if you create a personal space, don’t forget to upload (or choose) your own profile picture, so people can see who you are.
Localisation/Internationalisation

Confluence now supports drop-in language packs to change the language of the user interface. The global administrator can select a default language for the entire site, while individual users can set their preferred language in their preferences.

No language packs are currently available, but we are currently working with our global partners so we can begin to provide translations. If you are interested in translating Confluence into another language, you can find instructions on building a language pack here: Language Pack Plugins.

CAPTCHA Support

Many of the more public Confluence wikis have been suffering at the hands of spammers. CAPTCHA support adds the familiar ‘type in this word’ question to signup, edit and comment forms, to defeat automated spamming bots. You can turn on CAPTCHA from the global administrative console, and also choose which users will, or will not be subject to the spam check.
Plugin Improvements

Each version of Confluence is more customisable than the last. One of the most exciting things to come from our recent plugin competition was learning just how creative our plugin developers are, and discovering more ways we can help them add features to Confluence.

- Job Plugins and Trigger Plugins allow you to schedule periodic tasks to run within Confluence.
- Web UI Plugins allow plugin developers to add new links, buttons and tabs to the Confluence interface, and make it easier for theme developers to stay up to date with changes to the Confluence UI.
- Code Formatting Plugins allow you to plug support for new languages into the {code} macro (or override the existing language support with something better).

We've also made a number of improvements to the plugin system, including:

- Making sure that a single 'rogue' plugin can't bring down the whole plugin subsystem.
- Enabling 'conditional get' for plugin resources, so browsers don't download them again and again.
- Fixing problems that may occur when a servlet or component plugin is reloaded or upgraded. (With many thanks to Dan Hardiker of Adaptavist.)

New atlassian-user Configuration Syntax

As promised, we have cleaned up the configuration file syntax for our atlassian-user user management library. This should make it much easier to configure Confluence to use external user repositories such as LDAP. You can find details of the new configuration file format here: Add LDAP Integration

Improvements

Permissions Changes

In Confluence 2.1 and earlier, permissions that were assigned to Anonymous users were not automatically assigned to logged-in users, leading to the confusing situation where you could view a page when not logged in, but not view it when you were logged in.

In Confluence 2.2 and later, permissions that are assigned to the Anonymous user are also assigned to all logged in users. The sole exception to this rule is the global Use Confluence permission, which must still be explicitly granted to any user who wishes to log in. (This exception is necessary due to licensing restrictions).

Search

With help from Kelvin Tan, we've overhauled much of the underlying infrastructure of Confluence's search engine. Search in Confluence should now be more efficient, and some searches that were problematic before (such as wildcard* searches) now work as you would expect them to.

LDAP Performance

Confluence's performance against external LDAP user repositories should now be significantly faster.

Other

- The General Configuration screen is much better organised
- You can choose a space's initial permissions and theme when you create it
- Themes may now be packaged with icons that will be displayed in the theme selector (see the screenshot of the "create personal space" screen above for an example)
- Confluence Standalone is now packaged with Tomcat 5.5
- Atom feeds are now generated to the Atom 1.0 standard
- The back-end storage of attachment files has been changed to resolve a number of problems that were caused when the underlying filesystem did not support the character-set of the attachment filename
Important note for MySQL users

For users using MySQL with Confluence 2.2 (or higher), please ensure that you are using the latest (3.1.12) MySQL Java Connector. Earlier versions of the MySQL connector have a bug which is triggered by improvements in Confluence 2.2. These earlier connector versions will result in an error being recorded in your logs on upgrade (and will result in unstable operation of Confluence).

You can download the latest MySQL connector from the MySQL Java Connector 3.1 download page. Please be sure that you remove any older versions of the connector from your application server.

The Confluence 2.2 Team

Development and Support 😊
Tom Davies
Jeremy Higgs
David Loeng
Charles Miller
Daniel Ostermeier
Christopher Owen
Matt Ryall
Jens Schumacher

Oversight & Management 😊
Mike Cannon-Brookes
Scott Farquhar

Issues Resolved for 2.2

Errors were reported by the JIRA trusted connection.

- **APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]**

### JIRA Issues (84 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-1470</td>
<td>Add Tomcat HTTPS connector commented out in Standalone</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5843</td>
<td>Disable Glue servlet on JRockit</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5209</td>
<td>Review the 2.2 Release Impact document</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5351</td>
<td>Upgrade Confluence Standalone to use Tomcat 5.5</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3725</td>
<td>Plugin Package and Module Configurations</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-193</td>
<td>Confluence services</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3724</td>
<td>Pluggable Menus</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-1315</td>
<td>Internationalization</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-1080</td>
<td>Personal Space</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-577</td>
<td>Tie blogs in with user profiles</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5477</td>
<td>Add support for localisation of help tips sidebar</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6002</td>
<td>Throw an event on user searches</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4273</td>
<td>Plugins hooking into the admin UI</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Ticket</td>
<td>Description</td>
<td>Status</td>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>CONF-5155</td>
<td>move bucket cache manager into its own package</td>
<td>Resolved</td>
<td>Won't Fix</td>
<td></td>
</tr>
<tr>
<td>CONF-4861</td>
<td>Review the writing/export of files to disk using content IDs, instead of filenames</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5172</td>
<td>Change object id generation to be cluster friendly.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4399</td>
<td>Make Plugins configurable from the admin interface</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
</tr>
<tr>
<td>CONF-5613</td>
<td>Add new plugin events</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5834</td>
<td>Clean up General Configuration</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5847</td>
<td>Add authentication to discoverable RSS feeds when user is logged in</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5846</td>
<td>Add feed icon to pages with discoverable RSS</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5854</td>
<td>Move Atom feeds to Atom 1.0</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5780</td>
<td>Make /admin/ redirect to /admin/console.action</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5738</td>
<td>Add ability to upload profile photos via the remote API</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5739</td>
<td>Create personal spaces via remote API</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5741</td>
<td>Convert space to personal space via Remote API</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5022</td>
<td>Remove EHCach specific implementations from Confluence.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5903</td>
<td>Logged in users should inherit access rights of anonymous users.</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
</tr>
<tr>
<td>CONF-5917</td>
<td>Add pluggable formatters to the code macro</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5905</td>
<td>Confluence 2.2 - feedback</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5977</td>
<td>Parent Page field in page Edit screen is clearly too small for comfortable editing</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4860</td>
<td>Use an attachment's content ID instead of filename when writing to disk</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3208</td>
<td>Allow attachments to be stored in the database</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5057</td>
<td>Allow for manually flushing the Confluence caches.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5470</td>
<td>RSS feeds don't honour page permissions?</td>
<td>Closed</td>
<td>Cannot Reproduce</td>
<td></td>
</tr>
<tr>
<td>CONF-2471</td>
<td>Unix backup fails to restore on windows when attachment filenames contain accented characters</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5528</td>
<td>User profile pictures are stored twice in the one upload</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5529</td>
<td>User profile attachments are not deleted when the user is removed</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4953</td>
<td>Giving Anonymous Access does not give logged in user permission</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Ticket</td>
<td>Description</td>
<td>Status</td>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>CONF-5422</td>
<td>Anonymous access permissions are not inherited - logged in users don't even share anonymous access privileges</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
</tr>
<tr>
<td>CONF-5598</td>
<td>Servlet plugins do not disable or uninstall</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3326</td>
<td>Uploading a modified plugin with the same name does not update velocity template</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4903</td>
<td>Plugin keys must be lowercase</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4478</td>
<td>plugins cannot use capitalization in their names</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5666</td>
<td>On edit space labels page, clicking on team labels doesn't work</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5724</td>
<td>Create page doesn't use space logo</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5868</td>
<td>XML import adds leading newline to CDATA fields</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2948</td>
<td>Attachments unreliable due to file-names</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5580</td>
<td>Searching by username and fullname fails</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5653</td>
<td>Space import doesn't set mail 'From' address</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5918</td>
<td>Standalone package has apps in the webapp directory</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5943</td>
<td>Livesearch results print out {searchresultwithexcerpt}</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5526</td>
<td>Favourites (spaces and pages) are lost on site restore</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5989</td>
<td>Layout all screwed up on Preview</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6000</td>
<td>NPE whne requesting new password</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5413</td>
<td>Boilerplate text in a new Space still refers to &quot;You can edit the content of this page using the Edit link on the right.&quot;</td>
<td>Closed</td>
<td>Won't Fix</td>
<td></td>
</tr>
<tr>
<td>CONF-6046</td>
<td>Switching between rich text editor and wiki editor breaks markup</td>
<td>Closed</td>
<td>Obsolete</td>
<td></td>
</tr>
<tr>
<td>CONF-5951</td>
<td>Attachment file names can be set to an empty string</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5909</td>
<td>japanese character search input does not send correct query</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5754</td>
<td>Accessing an unauthorized download directly returns a &quot;401 Unauthorized&quot; page, rather than &quot;Page Not Found&quot;</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5987</td>
<td>Entering a task with a % in {dynamictasklist} will make the page unusable</td>
<td>Resolved</td>
<td>Obsolete</td>
<td></td>
</tr>
<tr>
<td>CONF-4879</td>
<td>Navigation map macro throws NullPointerException when there are no labels</td>
<td>Closed</td>
<td>Duplicate</td>
<td></td>
</tr>
<tr>
<td>CONF-4777</td>
<td>Login does not redirect to last page location</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3168</td>
<td>Lucene reindexing fails and goes to 100% CPU on multi-processor systems</td>
<td>Resolved</td>
<td>Answered</td>
<td></td>
</tr>
<tr>
<td>CONF-5255</td>
<td>HibernateSystemException: &quot;query did not return a unique result&quot; when performing label/space operations</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>----------------------------------------------------------------------------</td>
<td>---------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>CONF-5912</td>
<td>Xwork actions fail due to being unable to load the class from the plugin</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4503</td>
<td>Problems with special characters in file names</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-2885</td>
<td>Use error page if Confluence is running but missing JDBC drivers on classpath</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5710</td>
<td>When inserting image onto a page via WYSIWIG Editor -&gt; &quot;Insert/Edit Image&quot; icon, the &quot;ok&quot; and &quot;cancel&quot; buttons are no longer visible when there are too many image attachments</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5995</td>
<td>Attachments show up as anonymous on dashboard</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5205</td>
<td>Admin license details link hangs</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5056</td>
<td>Search by &quot;Last Week&quot; and &quot;Last Month&quot; fail in the new year.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5109</td>
<td>UserSessionExpiryListener incompatible with certain application servers</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5116</td>
<td>Non-breaking space html entities showing up in search result page</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5361</td>
<td>Search results do not take into account exclusions (NOT) nor wild card characters (?)</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5585</td>
<td>Moving a page should also move children pages</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7025</td>
<td>Add Page with no title gives no error and does not save</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-4974</td>
<td>Concurrent modification exception in SimpleDisplayServlet</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3183</td>
<td>Broken Plug-ins are fatal</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5761</td>
<td>Manage groups reports only 100 members per group for LDAP groups</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5915</td>
<td>The Space dropdown in the Move Page box on Edit view is not alphabetical</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5214</td>
<td>Searching for multiple user using the user-filter is currently not possible</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5418</td>
<td>Plugin resource servlet does not provide headers necessary for caching</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5236</td>
<td>Manage Groups produces a StackOverFlowError with LDAPDynamicGroups</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>

**Release Notes 2.2.1**

Confluence 2.2.1 is a maintenance release that resolves some issues users may have encountered using Confluence 2.2, including issues related to LDAP user management, i18n, personal spaces and drafts.

2.2.1 is a free upgrade for all customers who purchased their Confluence license after May 18th, 2004.

**Who should upgrade?**

Confluence is a recommended upgrade for all customers using Confluence with external LDAP user management. All other customers should consult the list of issues resolved, and determine if this release is necessary for their own deployments.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.2, you can find instructions here. **We strongly recommend that you backup your confluence.home directory and database before upgrading!**
Draft Table Upgrade
Upgrading Confluence to 2.2.1 will cause all autosaved 'drafts' to be deleted from the database. Be sure everyone has saved their work before upgrading!

Confluence 2.2.1 and 2.2.1a
The current version available for download is 2.2.1a. 2.2.1 was originally released with an old version of the atlassian-plugins library, which caused the plugin fixes listed below not to be included in the release. Confluence 2.2.1a resolves that problem.

PageChildrenMacro IndexOutOfBoundsException error
Customers who downloaded 2.2.1 or 2.2.1a before the official announcement may encounter an error when using the (children) macro to view the children of other pages in the same space. There is a patch for this issue attached to CONF-6197

If you are upgrading from Confluence 2.1.5 or earlier, please check the release-notes of the other major Confluence releases:
- Release Notes 2.2
- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

Changes in 2.2.1
For a complete list, see: Issues resolved for 2.2.1

External User Management
- Creating a new user will no longer cause a primary key violation on some Confluence installations. CONF-6092
- Fixed a regression where authentication against an external LDAP server via the old OSUser integration layer did not function. CONF-6092
- Fixed a possible ClassCastException on viewing a user's profile. CONF-6021

Plugins
Note: Due to a scheduling error, these fixes were not included in Confluence 2.2.1, but are in the supplementary 2.2.1a release.
- Component plugins are now correctly unregistered when they are removed. CONF-4041
- Plugins may now contain and reference dependent jar files. Thanks to Dan Hardiker of Adaptavist for the patch. PLUG-8
- Installing an older version of an already-installed plugin no longer causes an error. PLUG-12
- Removing an uploaded plugin no longer causes it to be deactivated the next time it is installed. PLUG-13

General Stability
- Confluence can now store drafts for spaces with long (>20 character) keys. CONF-6010
- Attachments stored in MySQL databases will no longer be silently truncated to 64KB. CONF-6120
- Global language setting is now saved correctly. CONF-6027
- Missing attachment data no longer causes PDF export to crash. CONF-6063
- Misleading "attachment missing" errors are no longer logged after a space import. CONF-6026

Improvements
- A Javascript alert warns users if they have left the CAPTCHA field blank. CONF-5984
- A link to the logged-in user's personal space is included on every page (from their full name). CONF-6056
- The (children) macro can now show the children of pages in another space. CONF-5986

Issues resolved for 2.2.1
Errors were reported by the JIRA trusted connection.
- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (46 issues)</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-5986</td>
<td>Show children of a page from another space</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6056</td>
<td>Link personal spaces from a user's name on the top right hand side</td>
<td>Resolved</td>
</tr>
<tr>
<td>Ticket</td>
<td>Description</td>
<td>Status</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>CONF-6096</td>
<td>Don't placeFocus() on edit pages</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5984</td>
<td>Javascript warning if captcha is not filled in</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6021</td>
<td>View User Profile throws ClassCastException</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6024</td>
<td>&quot;No more results&quot; error when running atlassian-user migration JSP</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6018</td>
<td>NullPointerException in recently updated macro for anonymous use when profiling is enabled.</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6022</td>
<td>Unique Index Violations</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6026</td>
<td>Attachment filename fixer on space import attempts attempts to fix filenames of attachments from other spaces</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6027</td>
<td>Global language setting not honoured</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6039</td>
<td>NullpointerException in PermittedPagesScope</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6040</td>
<td>ClassCastException when viewing page information</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6013</td>
<td>Unable to specify the publishDate of a blog entry using the SOAP API</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6025</td>
<td>NullPointerException in HibernateProfileProvider.getPropertySet</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6063</td>
<td>PDF export throws error when attachment data is missing</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6073</td>
<td>Attachments can be renamed to an already existing attachment name</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5407</td>
<td>Entering a value containing a '$' dollar sign for a page template variable throws illegalArgumentException</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6081</td>
<td>'Add comment' link is startlingly close to page body text at times - may confuse some users</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6087</td>
<td>Templates throw error when variables contain certain strings</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6048</td>
<td>Repeating italic and bold markers (_, *) in the same line makes the view gets confused (display some text as bold, some as italic, and some marks)</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6107</td>
<td>Attachments are not included in backup when stored in database</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6065</td>
<td>Duplicated versions in page version history</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6010</td>
<td>Drafts spacekey column length restricted to 20 causing BatchUpdateException</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6050</td>
<td>System error clicking next on manage users</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6110</td>
<td>CLONE -LDAP Authentication via OSUser is broken</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6092</td>
<td>Cannot create new user due to primary key violation or unique constraint error</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6176</td>
<td>Servlet Plugins don't unload</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4676</td>
<td>Can't disable &quot;Script executing and show flash macro&quot; plugin.</td>
<td>Resolved</td>
</tr>
</tbody>
</table>
Release Notes 2.2.2

Confluence 2.2.2 is a maintenance release that resolves some issues users may have encountered using Confluence 2.2, including issues related to PDF generation, internationalisation, backup/restore and more.

2.2.2 is a free upgrade for all customers who purchased their Confluence license after May 31st, 2005.

Who should upgrade?

Confluence 2.2.2 resolves CONF-6237, a bug related to the backup and restore of personal spaces. As such it is a recommended upgrade for customers wishing to restore or import data containing personal spaces. Other users should consult the list of resolved issues, and determine if the upgrade is necessary for their installation.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.2 or 2.2.1, you can find instructions here. We strongly recommend that you backup your confluence home directory and database before upgrading!

If you are upgrading from Confluence 2.1.5 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.2
- Release Notes 2.1
Changes in 2.2.2

Over 25 issues were resolved between Confluence 2.2.1 and 2.2.2. For a complete list, see: Issues resolved for 2.2.2

Backup/Restore

- An issue was resolved that could cause personal spaces to be imported incorrectly from backups. Existing backup files are still valid, the error was only during the re-importing process – CONF-6237

PDF Export

- PDF exports can now be generated for pages containing non-latin characters. To enable these exports you will need to provide Confluence with the correct font – CONF-1457
- PDF exports created in Confluence are now properly searchable, both in Confluence (CONF-1380) and in Adobe Acrobat (CONF-4529)

Other

- (UI) Fixed a Javascript error when saving a page with CAPTCHA disabled – CONF-6221
- (User management) Resolved an error when deleting a non-empty group – CONF-6082
- (i18n) Resolved issues with hard-coded English text in various places – CONF-6202
- (i18n) Resolved issues with internationalisation keys showing up in the permissions guide – CONF-6053

Issues resolved for 2.2.2

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (25 issues)</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-5910 Allow support for Japanese license keys in 2.2.1.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1457 PDF export of unicode pages</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6119 Default !embed! rendering to &lt;img&gt; if we can't determine the mime type</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1360 Generated PDF is not searchable</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6260 Dashboard favourites should link to /label/my:favourite</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6064 Hide PDF export link when viewing historical page version</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6202 More Missing Strings (Notation Guide)</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6203 Missing Linked Pages</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6211 Including a slash at the end of the personal space URL does not work.</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6219 Spelling error in &quot;page conflict&quot; messages</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-5979 CAPTCHA gets confused when you're editing two pages at once.</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6221 Javascript error &quot;captchaTextField has no properties&quot; when saving edits and CAPTCHA is disabled.</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6082 Exception when deleting group with members</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6116 Single page PDF export fails</td>
<td>Closed</td>
<td>Not a bug</td>
</tr>
<tr>
<td>CONF-6158 Personal spaces appear on recently updated, even when the personal space is not accessible</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6251 Error thrown user email value is not set</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6185 $item in daily summary mail as author of anonymous comment</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
### Release Notes 2.2.3

Confluence 2.2.3 is a maintenance release that resolves some issues users may have encountered using Confluence 2.2, including issues related to LDAP user management, installation, backup/restore and more. This release also includes a patch for a serious security issue regarding global permissions.

2.2.3 is a free upgrade for all customers who purchased their Confluence license after June 8th, 2005.

**Who should upgrade?**

Confluence 2.2.3 resolves a security bug related to unauthorised modification of global permissions. As such this release is a recommended upgrade for all customers.

For users of older versions of Confluence who do not wish to upgrade, a patch for this issue will be available shortly.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.2, 2.2.1 or 2.2.2, you can find instructions here. We strongly recommend that you backup your `confluence.home` directory and database before upgrading!

If you are upgrading from Confluence 2.1.5 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.2
- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

**Changes in 2.2.3**

As part of a new process for pushing out bug fix releases more quickly, this release follows just a week after the release of 2.2.2. Six issues were resolved between Confluence 2.2.2 and 2.2.3. For a complete list, see: Issues resolved for 2.2.3

**Global Permissions**

- A security problem was identified where unauthorised users could modify global permissions. For more information, including details on how to patch previous Confluence versions, please see the security advisory

**Backup/Restore**

- An issue was resolved where attachments were not imported from space exports. Existing backup files are still valid, the error was only during the re-importing process – CONF-6286

**External user management**

- Queries to LDAP repositories are now correctly escaped, so user and group names may contain commas – USER-106

**Other**

- (UI) Fixed parent link in preview of new page – CONF-6275
- (authentication) Fixed incorrect redirect from login when base URL contained an extra slash – CONF-6261
- (installation) Improved error handling during Confluence setup – CONF-6276

**Issues resolved for 2.2.3**
Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

### JIRA Issues (9 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>☒</td>
<td>CONF-6286</td>
<td>Importing post-2.2 space export does not correctly import attachments</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>☒</td>
<td>CONF-6070</td>
<td>sAMAccountName vs display names in confluence LDAP integration</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>☒</td>
<td>CONF-6558</td>
<td>LDAP queries do not escape special characters correctly</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>☒</td>
<td>CONF-6276</td>
<td>Setup ignores exceptions thrown by LDAP group manager getGroup()</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>☒</td>
<td>CONF-6275</td>
<td>Links in preview mode do not work when creating a page</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>☒</td>
<td>CONF-6261</td>
<td>LoginAction does not generate correct original URL from Referer if base URL ends with a \slash</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>☒</td>
<td>CONF-6288</td>
<td>Welcome text not displayed on homepage</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>☒</td>
<td>CONF-6350</td>
<td>Welcome message resetting to default</td>
<td>Resolved</td>
<td>Duplicate</td>
</tr>
<tr>
<td>☒</td>
<td>CONF-6331</td>
<td>Security problem in permission editing</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
</tbody>
</table>

### Release Notes 2.2.4

Confluence 2.2.4 is a maintenance release that resolves an assortment of issues users may have encountered using Confluence 2.2.

2.2.4 is a free upgrade for all customers who purchased their Confluence license after June 22nd, 2005.

**Who should upgrade?**

Confluence 2.2.4 is a minor bugfix release. Customers should consult the list of issues resolved in this release to determine if it is worth their while upgrading.

Customers still running Confluence 2.2.2 or earlier are recommended to upgrade, as a significant security vulnerability was resolved in Confluence 2.2.3

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.2 - 2.2.3, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 2.1.5 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.2
- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

**Changes in 2.2.4**

We are currently trialling a process of more frequent bugfix releases, to make fixes available as soon as possible to those people who want them. 2.2.4 resolves six issues:

See also: Issues Resolved for 2.2.4

**User Interface**

- The "Space Admin" tab is no longer displayed to non-administrators. (Even though the tab was visible, non-administrators could still not access any of the administrative functions) CONF-6385
- Personal spaces are no longer listed in the space picker in the feed builder CONF-6830
- Attempts to create news items with invalid characters now fail with the correct error message CONF-6358
**Performance**

- The velocity manager is no longer loaded twice, saving memory. CONF-6355
- The velocity cache now expires templates that have not been recently used, potentially saving memory. CONF-6339

**Developer API**

- Putting pages into, and removing them from the trash now trigger the correct events within Confluence CONF-6353

**Issues Resolved for 2.2.4**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (8 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CONF-6353</td>
<td>Add trashed and restore events for pages and news</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CONF-6355</td>
<td>Wasting memory - Velocity is loaded twice</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CONF-6380</td>
<td>Personal spaces appear in space picker (feed builder)</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CONF-6385</td>
<td>Space admin tab is visible to non-space admins</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CONF-6358</td>
<td>Error creating news</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CONF-6339</td>
<td>Velocity cache never gets cleared</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CONF-6449</td>
<td>No email address in LDAP causes page editing/movement to fail if user is watching</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CONF-6879</td>
<td>An error occurs when creating an RSS Feed</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
</tbody>
</table>

**Release Notes 2.2.5**

![Release notes are to follow ...](image)

**Issues Resolved**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (18 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CONF-6401</td>
<td>excluded mail count no longer works</td>
<td>Unassigned</td>
<td>Tom Davies [Atlassian]</td>
<td></td>
<td></td>
<td>Closed</td>
<td>Jun 20, 2006</td>
<td>Jun 21, 2006</td>
<td></td>
</tr>
</tbody>
</table>
### Release Notes 2.2.6a

Confluence 2.2.6a is a maintenance release that resolves an assortment of issues users may have encountered using Confluence 2.2.

2.2.6a is a free upgrade for all customers who purchased their Confluence license after June 22nd, 2005.

**Who should upgrade?**

Confluence 2.2.6a is a minor bugfix release. Customers should consult the list of issues resolved in this release to determine if it is worth their while upgrading. Customers running Confluence 2.2.5 should upgrade, as 2.2.6a fixes a security problem which could allow an unauthorised user to modify space mail box configuration. Only version 2.2.5 is affected by this vulnerability. Customers running 2.2.5 who don't wish to upgrade can follow these instructions to patch the vulnerability.

Customers still running Confluence 2.2.2 or earlier are recommended to upgrade, as a significant security vulnerability was resolved in Confluence 2.2.3

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.2 - 2.2.3, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 2.1.5 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.2
- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

<table>
<thead>
<tr>
<th>Issue ID</th>
<th>Description</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Status</th>
<th>Resolution</th>
<th>Fixed</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-6379</td>
<td>Search for Japanese strings should not include partial matches</td>
<td>Unassigned</td>
<td>Neeraj Jhanji</td>
<td>Closed</td>
<td>Fixed</td>
<td>Jun 18, 2006</td>
<td>Aug 22, 2007</td>
</tr>
<tr>
<td>CONF-6184</td>
<td>Trying to navigate past the 10th page in Manager Users throws an exception</td>
<td>Christopher Owen [Atlassian]</td>
<td>Dave Loeng [Atlassian]</td>
<td>Closed</td>
<td>Fixed</td>
<td>May 17, 2006</td>
<td>Jun 27, 2006</td>
</tr>
<tr>
<td>CONF-6170</td>
<td>Delete Icon (trash can) functionality not immediately obvious to end users</td>
<td>Unassigned</td>
<td>Noam Field</td>
<td>Resolved</td>
<td>Fixed</td>
<td>May 16, 2006</td>
<td>Sep 06, 2006</td>
</tr>
<tr>
<td>CONF-6148</td>
<td>System error viewing drafts</td>
<td>Unassigned</td>
<td>Bob Swift</td>
<td>Resolved</td>
<td>Fixed</td>
<td>May 12, 2006</td>
<td>Jul 11, 2006</td>
</tr>
<tr>
<td>CONF-5848</td>
<td>blog-posts + label that doesn't exist results in all news shown</td>
<td>Agnes Ro [Atlassian]</td>
<td>Paul Pavlids</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Apr 03, 2006</td>
<td>Jul 06, 2006</td>
</tr>
<tr>
<td>CONF-5437</td>
<td>Text +like this+ should use the semantic &lt;ins&gt; rather than &lt;u&gt;.</td>
<td>Unassigned</td>
<td>Matt Ryall [Atlassian]</td>
<td>Closed</td>
<td>Won't Fix</td>
<td>Feb 07, 2006</td>
<td>Jun 25, 2006</td>
</tr>
<tr>
<td>CONF-4434</td>
<td>IMAP/Exchange support in mail archive</td>
<td>Unassigned</td>
<td>Robert Christenson</td>
<td>Closed</td>
<td>Fixed</td>
<td>Oct 27, 2005</td>
<td>Dec 30, 2008</td>
</tr>
<tr>
<td>CONF-3907</td>
<td>Support accessing the POP account via SSL</td>
<td>Unassigned</td>
<td>Daniel Ostermeier</td>
<td>Closed</td>
<td>Fixed</td>
<td>Sep 01, 2005</td>
<td>Jul 10, 2006</td>
</tr>
</tbody>
</table>
Changes in 2.2.6a

We are currently trialling a process of more frequent bugfix releases, to make fixes available as soon as possible to those people who want them. 2.2.6a resolves 20 issues.

A few of the issues are noted below, see Issues Resolved for 2.2.6a for a complete list.

User Interface

- The rich text editor allows underlining to be removed, and lists in tables are better behaved. CONF-6450, CONF-6508
- Users with capital letters in their names can watch pages and spaces. CONF-6489

LDAP

- LDAP users can be removed from local Confluence groups. CONF-6131
- The 'Change Password' link is no longer shown when LDAP is enabled. CONF-6360

Performance

- Indexing performance has been improved. CONF-6465

2.2.5 Security Patch

This patch fixes a minor security vulnerability regarding the administration of space mail accounts. It affects only Confluence 2.2.5.

To install this patch please download the three files attached to this page, stop Confluence and copy them to your WEB-INF/classes/com/atlassian/confluence/mail/actions directory, where they will replace the existing files. Then start Confluence.

<table>
<thead>
<tr>
<th>Name</th>
<th>Size</th>
<th>Creator (Last Modifier)</th>
<th>Creation Date</th>
<th>Last Mod Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>RemoveMailAccountAction.class</td>
<td>1 kB</td>
<td>Tom Davies</td>
<td>Jul 12, 2006</td>
<td>Jul 12, 2006</td>
<td></td>
</tr>
<tr>
<td>EditMailAccountAction.class</td>
<td>6 kB</td>
<td>Tom Davies</td>
<td>Jul 12, 2006</td>
<td>Jul 12, 2006</td>
<td></td>
</tr>
<tr>
<td>AddMailAccountAction.class</td>
<td>5 kB</td>
<td>Tom Davies</td>
<td>Jul 12, 2006</td>
<td>Jul 12, 2006</td>
<td></td>
</tr>
</tbody>
</table>

Issues Resolved for 2.2.6a

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<p>| JIRA Issues (25 issues) |
|-------------------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-6493</td>
<td>Invalid keyword or missing delimiter error</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5548</td>
<td>Concurrent use of inner groups and group based on LDAP (based on AtlassianUser)</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6562</td>
<td>Increase the number of groups shown on the Manage Groups screen</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-3034</td>
<td>Confluence renderer should render markup within words (w_o_rods)</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6200</td>
<td>Please allow editing of links and email addresses included in the ConfluenceActionSupport.properties file</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6519</td>
<td>google maps plugin fails in IE</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6563</td>
<td>Referrers not showing on info page, even when referrers turned on</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6489</td>
<td>User is not marked as watching a page or space if their username contains capital letters</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6518</td>
<td>Space list macro does not update user interface state when requested tab is not available</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6499</td>
<td>Site Homepage Default incorrectly set</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6292</td>
<td>Cannot login when a user belongs to more than 100 groups</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6473</td>
<td>Redirect to default homepage of a space after signup</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6475</td>
<td>Confluence should upgrade to the latest version of the CombinedCachingServlet once JRA-10504 has been resolved</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6476</td>
<td>Decimal Number Format in General Config cannot be updated</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6131</td>
<td>Cannot remove LDAP user from local confluence group</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6508</td>
<td>WYSIWYG Editor problem when editing bulleted list within a table cell</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-5333</td>
<td>Export to Word doesn't work with Japanese</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6616</td>
<td>attachment Error in Linking Window using Insert/Edit Link button while edit page</td>
<td>Closed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6709</td>
<td>Character is not shown...</td>
<td>Resolved Duplicate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-7093</td>
<td>EmbeddedRenderer incorrectly</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6450</td>
<td>Unable to remove underlining via the Rich text editor.</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-4721</td>
<td>Image and link insertion dialogs are fixed size and don't scroll</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6497</td>
<td>BeanInfo introspection cache not being cleared on webapp shutdown.</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6465</td>
<td>Major reindexing performance regression</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| CONF-6515 | plugin manager should ignore/log unknown module types                      | Closed  | Fixed

**Release Notes 2.2.7**

Confluence 2.2.7 is a maintenance release that resolves an assortment of issues users may have encountered using Confluence 2.2. 2.2.7 is a free upgrade for all customers who purchased their Confluence license after July 28th, 2005.

**Who should upgrade?**

Confluence 2.2.7 is a minor bugfix release. Customers should consult the list of issues resolved in this release to determine if it is worth their while upgrading.

Customers still running Confluence 2.2.2 or earlier are recommended to upgrade, as a significant security vulnerability was resolved in Confluence 2.2.3

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.2 - 2.2.3, you can find instructions here. We strongly recommend that you backup your confluence home directory and database before upgrading!

If you are upgrading from Confluence 2.1.5 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.2
- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

**Changes in 2.2.7**
We are currently trialling a process of more frequent bugfix releases, to make fixes available as soon as possible to those people who want them. 2.2.7 resolves 23 issues.

A few of the issues are noted below, see Issues Resolved for 2.2.7 for a complete list.

**Task List Macro**
- Tasks with the same name in different lists are now distinguished. CONF-5809

**User Management**
- The manage groups page can now display an unlimited number of groups. CONF-6458
- Users that belong to more than 100 groups are now always able to login. CONF-6292

**PDF Export**
- Exporting pages to PDF which include other pages will now have correct links and not lose images. CONF-1155

**Internationalisation**
- Tree view of page hierarchy will not be truncated when using multi-byte character sets. CONF-5872

**Issues Resolved for 2.2.7**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (22 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
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<tr>
<td><img src="image" alt="CONF-6458" /></td>
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<tr>
<td><img src="image" alt="CONF-5809" /></td>
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<td><img src="image" alt="CONF-6610" /></td>
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<tr>
<td><img src="image" alt="CONF-5815" /></td>
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<tr>
<td><img src="image" alt="CONF-6598" /></td>
</tr>
<tr>
<td><img src="image" alt="CONF-6632" /></td>
</tr>
<tr>
<td><img src="image" alt="CONF-6615" /></td>
</tr>
<tr>
<td><img src="image" alt="CONF-7093" /></td>
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<tr>
<td><img src="image" alt="CONF-6569" /></td>
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<tr>
<td><img src="image" alt="CONF-6601" /></td>
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<tr>
<td><img src="image" alt="CONF-5872" /></td>
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<tr>
<td><img src="image" alt="CONF-6607" /></td>
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<tr>
<td><img src="image" alt="CONF-6573" /></td>
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<td><img src="image" alt="CONF-6650" /></td>
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<td><img src="image" alt="CONF-6580" /></td>
</tr>
<tr>
<td><img src="image" alt="CONF-6596" /></td>
</tr>
</tbody>
</table>
Release Notes 2.2.8

Confluence 2.2.8 is a maintenance release that resolves an assortment of issues users may have encountered using Confluence 2.2.

Confluence 2.2.8 has slower indexing than previous versions. There is a fix for that regression here: CONF-6908

2.2.8 is a free upgrade for all customers who purchased their Confluence license after August 8th, 2005.

Who should upgrade?

Confluence 2.2.8 is a minor bugfix release. Customers should consult the list of issues resolved in this release to determine if it is worth their while upgrading.

Customers still running Confluence 2.2.2 or earlier are recommended to upgrade, as a significant security vulnerability was resolved in Confluence 2.2.3

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.2 - 2.2.3, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 2.1.5 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.2
- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

Changes in 2.2.8

We are currently trialling a process of more frequent bugfix releases, to make fixes available as soon as possible to those people who want them. 2.2.8 resolves 22 issues.

A few of the issues are noted below, see Issues Resolved for 2.2.8 for a complete list.

- Exporting a space as HTML now creates an index page which includes all the pages in the export. CONF-6670
- Timeouts can be set for HTTP requests made from Confluence to RSS feeds and JIRA instances. CONF-8697
- RSS Autodiscovery works in Safari. CONF-4607
- When a group is deleted, space permissions for the group are now correctly removed. CONF-6733
- Change default background colour from grey to white. CONF-6733
- Non-breaking spaces are handled correctly when indexing. CONF-6685
- Rich text editor respects leading spaces in noformat macro. CONF-6527

Issues Resolved for 2.2.8

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (25 issues)</th>
</tr>
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<tbody>
<tr>
<td><strong>Type</strong></td>
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<td>-----------</td>
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<tr>
<td>Issue</td>
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<tr>
<td>CONF-6697</td>
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<tr>
<td>CONF-6733</td>
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<td>CONF-6689</td>
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<td>CONF-6527</td>
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<td>CONF-4607</td>
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<td>CONF-6727</td>
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<td>CONF-6690</td>
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<td>CONF-6122</td>
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<td>CONF-6730</td>
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<tr>
<td>CONF-6742</td>
</tr>
<tr>
<td>CONF-7054</td>
</tr>
<tr>
<td>CONF-6731</td>
</tr>
</tbody>
</table>

**Release Notes 2.2.9**
Confluence 2.2.9 is a maintenance release that resolves an assortment of issues users may have encountered using Confluence 2.2. 2.2.9 resolves an indexing performance regression introduced in 2.2.8, and includes fixes for external user management, and MaxDB and Sybase compatibility.

2.2.8 is a free upgrade for all customers who purchased their Confluence license after September 9th, 2005.

Who should upgrade?

Confluence 2.2.9 is a minor bugfix release. Customers should consult the list of issues resolved in this release to determine if it is worth their while upgrading.

If you are running Confluence 2.2.8, but do not wish to upgrade to 2.2.9, we strongly recommend installing the patch attached to CONF-6908 instead to resolve an issue related to re-indexing performance.

Customers still running Confluence 2.2.2 or earlier are recommended to upgrade, as a significant security vulnerability was resolved in Confluence 2.2.3

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from Confluence 2.2 - 2.2.3, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 2.1.5 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.2
- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

Changes in 2.2.9

2.2.8 resolves approximately 25 issues. See Issues Resolved for 2.2.9 for a complete list. A few of the issues are noted below.

External user management:

- LDAP users are no longer given the option to change their passwords in Confluence – CONF-6144
- External users belonging to more than 100 groups can log in successfully – CONF-6292
- External users can be removed from local groups – CONF-6832

Database Compatibility

- 'Review restricted pages' report now succeeds on MaxDB – CONF-6849
- Fixed Sybase error when removing a space – CONF-6715

Indexing

- A re-indexing performance regression introduced in 2.2.8 has been resolved – CONF-6908
- Advanced search queries for specific index fields now work as expected – CONF-6714
- Errors in text extractors no longer cause index queue flushing to fail – CONF-6857

Issues Resolved for 2.2.9

Errors were reported by the JIRA trusted connection.

- APP.UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (25 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONF-6773</td>
<td>Improve validation of character encoding</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-6820</td>
<td>Reindexing fails if temp directory doesn't exist</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-6908</td>
<td>Rebuilding index gets progressively slower or fails</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-5852</td>
<td>Can't select a page as a link via the search</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-5869</td>
<td>Search result paging is broken for 'Add Link' dialog in Rich Text editor</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONF-6881</td>
<td>Possible deadlock in DefaultDraftManager</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>JIRA Key</td>
<td>Description</td>
<td>Status</td>
<td>Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6292</td>
<td>Cannot login when a user belongs to more than 100 groups</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6144</td>
<td>Change password screen should be disabled for LDAP users (or read only users)</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6889</td>
<td>Changing permissions on the page changes last modifier</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6844</td>
<td>Cannot resume editing of news posts</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6874</td>
<td>Content author without matching user record throws NullPointerException in DefaultFeedBuilder</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6496</td>
<td>Null Pointer Exception when uploading images</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6921</td>
<td>Velocity macro not expanded</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6914</td>
<td>Catch the zip-too-large-for-VM error and explain it</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6741</td>
<td>BucketPropertySetItem belonging to deleted page breaks space import</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6783</td>
<td>BODYCONTENT clob column creation fails in DB2</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6695</td>
<td>RSS feed for non-existing space throws exceptions</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6832</td>
<td>Cannot remove LDAP user from local confluence group</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6714</td>
<td>Confluence Lucence Search Terms broken</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6963</td>
<td>Cannot start Confluence after configuring LDAPDynamicGroupAdaptor</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-7093</td>
<td>EmbeddedRenderer incorrectly</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6717</td>
<td>Column widths specified without % render as pixel length in IE but percent in Firefox</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6715</td>
<td>Sybase error when removing space</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6779</td>
<td>Blog navigation calendar malfunctions on date with more than one post</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6825</td>
<td>Error on Admin main when license ended.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Release Notes 2.2.10**

Confluence 2.2.10 is a maintenance release that resolves an assortment of issues users may have encountered using Confluence 2.2. 2.2.10 resolves an assortment of issues that were reported by customers.

2.2.10 is a free upgrade for all customers who purchased their Confluence license after November 30th, 2005.

**Who should upgrade?**

Confluence 2.2.10 is a minor bugfix release. Customers should consult the list of issues resolved in this release to determine if it is worth their while upgrading.

If you are running Confluence 2.2.8, but do not wish to upgrade to 2.2.10, we strongly recommend installing the patch attached to CONF-6908 to resolve an issue related to re-indexing performance.

Customers still running Confluence 2.2.2 or earlier are recommended to upgrade, as a significant security vulnerability was resolved in Confluence 2.2.3

**Upgrade Procedure**
Upgrading Confluence should be pretty easy. If you are upgrading from another Confluence 2.2.x version, you can find instructions here. We strongly recommend that you backup your `confluence.home` directory and database before upgrading!

If you are upgrading from Confluence 2.1.5 or earlier, please check the release-notes of the other major Confluence releases:

- Release Notes 2.2
- Release Notes 2.1
- Release Notes 2.0
- Release Notes 1.4
- Release Notes 1.3
- Release Notes 1.2
- Release Notes 1.1

**Changes in 2.2.10**

2.2.10 resolves over 40 issues. All these issues are listed below:

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: (0); ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (44 issues)</th>
<th>Type Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-5489</td>
<td></td>
<td>Trackbacks are broken</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7092</td>
<td></td>
<td>Section/Column is broken for fixed-width columns</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6853</td>
<td></td>
<td>Page and Space decorators need a catch all mode for $context and $mode</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-8916</td>
<td></td>
<td>Create patch to CONF-8877 for Confluence 2.5.4</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7387</td>
<td></td>
<td>Possible to create user from XML RPC with null fullname</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7181</td>
<td></td>
<td>The link table can have rows with spurious space keys inserted</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6741</td>
<td></td>
<td>BucketPropertySetItem belonging to deleted page breaks space import</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-2921</td>
<td></td>
<td>Daily emails list user login names not full names</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6995</td>
<td></td>
<td>Rich text editor inserts images with no space between text and '!'</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7035</td>
<td></td>
<td>Draft form can be submitted with multiple space keys</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7038</td>
<td></td>
<td>User with null email address breaks daily report job</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7050</td>
<td></td>
<td>labelString attribute doesn't restrict RSS feeds</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7061</td>
<td></td>
<td>Some digest notification links don't include the base URL</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-4801</td>
<td></td>
<td>include cancel button for comments</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7134</td>
<td></td>
<td>groupSearchAllDepths and userSearchAllDepths not respected</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7132</td>
<td></td>
<td>Clicking 'add' on the permissions administration screen when there is nothing to add should result in a validation error</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7282</td>
<td></td>
<td>&quot;Create Personal Space&quot; can create Space with NULL name</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7305</td>
<td></td>
<td>For comments, first CAPTCHA word fails</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>JIRA Key</td>
<td>Issue Description</td>
<td>Status</td>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>--------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>CONF-7285</td>
<td>Moving attachment to another page clobbers authors of previous versions</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7322</td>
<td>Jiraissues macro doesn't show icons or timestamps</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6913</td>
<td>Images don't export to PDF if capitalization is wrong</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7163</td>
<td>SQL problem with deleting users</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7030</td>
<td>contentbylabel macro throws Java errors when used in BLOG or COMMENT objects</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7034</td>
<td>problem with embedding mpeg and mp4 within page</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7189</td>
<td>Export to PDF &amp; broken {attachment} macro links</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6835</td>
<td>wrong mouse tool tip text</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6950</td>
<td>Export to PDF using icon=false in templates results in PDF with each word on its own line</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6969</td>
<td>Favorites listing on Personal Labels page -- paging broken</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6991</td>
<td>Can't link to image attachments stored on other pages from within comments (but it works in preview of the comment)</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7000</td>
<td>Mail sender shows as null in RSS feeds</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7058</td>
<td>(dynamictasklist) macro: Problem deleting last item</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7101</td>
<td>Draft merge failure logging is too verbose</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
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<tr>
<td>CONF-7016</td>
<td>Restricting a page to an invalid group shows misleading error</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7145</td>
<td>Pagination of user labels fails when context path is used</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7249</td>
<td>DefaultMailAccountManager.getStore error throws object reference instead of useful toString</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7178</td>
<td>&quot;Recently Updated&quot; list size on dashboard resets to 10 on each visit to dashboard</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7270</td>
<td>Update blog post remotely doesn't save history</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7366</td>
<td>Cancelling create page workflow</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8272</td>
<td>Confluence - What's This? link near page restrictions note brings up error</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7006</td>
<td>After un-installing plugin notification is incorrect</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6983</td>
<td>Global Statistics Plugin - incorrect SQL statement</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6936</td>
<td>ConfigureSpaceLogoAction affected by attachment size</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7085</td>
<td>Editing lists in tables with WYSIWYG adds extra indent asterisk (*) to list</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6833</td>
<td>hardcoded http request in {dynamictasklist} macro</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>
Release Notes 2.3

After much hard toil from the Confluence developers we are happy, nay ecstatic, to announce the availability of Confluence 2.3 (known affectionately as Snowy). Snowy is the eighth major update to Confluence. It supports clustered deployment as 'Confluence Massive', and introduces a people directory, activity statistics plugin, personal timezone preferences, and the ability to access Confluence via the Metaweblog and WebDAV APIs.

Confluence 2.3 is a free upgrade for any customer who purchased Confluence after January 4th, 2006.

Upgrading from Confluence 2.2.x

Upgrading Confluence should be fairly straightforward: you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

Upgrading from Confluence 2.1 and earlier

Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.

Installation Notes

Known Issues and Patches
Please read the Known Issues and Patches section of the release-notes before installing Confluence 2.3. These issues were resolved with a new maintenance release of Confluence 2.3.1

Contents

1. New Features
2. Improvements

See also: Issues Resolved for 2.3

New Features

Confluence Massive

Confluence is now a clusterable application. This means that it is possible to run multiple Confluence servers behind a load-balancer, to provide high availability, and to scale Confluence beyond the capacity of a single server.

Confluence Massive uses Tangosol Coherence to share data between nodes (and many other things besides).

If you are thinking of running Confluence in a cluster, and need to know what is required and how it works, you can read Technical Overview of Clustering in Confluence.

You can find instructions for installing a Confluence cluster here: Confluence Cluster Installation.

Cluster Licensing

Confluence Massive clustering is only enabled if you have a clustered licence. For information on purchasing clustered Confluence licences, please check our pricing page, or contact our friendly sales team.

The People Directory

In version 2.2 (Shoalhaven), we added personal spaces to Confluence. Because of the potential for the proliferation of personal spaces we kept them off the Dashboard and search results by default, but this made it quite hard to find people in a Confluence site.
The People Directory, which you can find linked from the bottom of the Dashboard, gives you a way to browse through the other people who use a Confluence instance, their profiles and personal spaces.

If you find people whose personal spaces you want to follow, you can mark them as favourites from the people directory. This will add their personal spaces to your 'My' tab on the Dashboard, and will also make sure they're included when you search or make RSS feeds from your favourite spaces.

**Activity Tracking**

The activity plugin lets you know what's happening in Confluence: how many pages are being visited or edited in each space or across the whole site, which spaces or pages are the busiest, who are the most prolific editors.
You can view activity statistics for a space in Browse Space, or globally from the administration console.

The plugin also provides macros that allow you to embed usage data into a Confluence page: {usage}, {popular} and {topusers}.

Activity tracking does not work in a cluster, and will be disabled for clustered deployments. We're working on making the activity tracker clusterable in a future release. You can follow this issue in JIRA: CONF-7520

**Blogger and MetaWeblog API Support**

Confluence 2.3 bundles the Blogging RPC Plugin. This allows users to manage their News in Confluence using one of the many available blogger-compatible desktop clients.
You can read more about this plugin, including instructions for setting up various blogging clients for use with Confluence, on the plugin information page.

**WebDAV Client Support**

The Confluence WebDAV plugin allows users to mount Confluence as a shared drive, using the WebDAV protocol.

This provides a familiar interface for anyone who uses Confluence as a repository for files: you can browse your wiki straight from Windows Explorer or the Mac Finder; view Word or PDF versions of pages; upload attachments and edit attachments in place; create, edit and move pages.
For more information on the WebDAV plugin, check out: WebDAV Plugin

WebDAV is supported natively in Windows XP (as "Web Folders") and Mac OS X, although there are third-party clients that may provide different functionality or compatibility. We have a compatibility matrix if you're interested.

**Experimental**

WebDAV client support is currently experimental, and is disabled by default. You can turn it on from the Plugin management page in the global administration console.

**Improvements**

**Plugins**

- Adaptivist's fantastic Plugin Repository Client is bundled with Confluence.
- User Macro Plugins allow you to share user macros more easily.
- Lifecycle Plugins allow you to hook into Confluence startup and shutdown.
- Events are now produced when themes are applied, or colour-schemes modified.
- Confluence now ships with 'bundled' plugins that are installed when Confluence is installed, but are not hard-coded into the application (so they can be upgraded without upgrading Confluence).
- Plugin resources now set Last-Modified and ETag headers properly, so they can be conditionally retrieved by browsers.
- Confluence is now built entirely using Maven 2. More on this soon.

**Other Changes**

- Users can now choose to have dates and times displayed in their own timezone instead of the server's - CONF-1026.
- Most Confluence configuration data has been moved from the filesystem into the database.
- The Clickr Theme is bundled with Confluence.
- HTML exports are more reliable for sites with non-ASCII page titles - CONF-4862.
- You can now get users from multiple LDAP repositories at the same time (or different search paths in the same LDAP repository) - CONF-6034.
- Shortcut links can now have the substitution string in the middle of the URL (CONF-3246), and have custom display text and titles (CONF-514).
- User macros are more flexible: you can configure how macro bodies are pre-rendered (CONF-2293), and you can also specify that a user macro generates wiki markup instead of HTML (CONF-3780).
- Pages with large numbers of attached images no longer eat up too many database connections - CONF-6393.
- When creating an RSS feed with the feed builder, you can choose whether to see full content, diffs, or both - CONF-6321.
- Searches now default to AND rather than OR for combining search terms - CONF-5874.
- The login page no longer prompts you to log in when you're already logged in. - CONF-6843.
- Support for the Nintendo Wii.
- Various improvements to performance that should result in a faster display of pages, and fewer problems for servers with large numbers of space permissions.
- Many static resources in Confluence are cached more effectively, so browsers have to retrieve CSS and Javascript files significantly
Confluence 2.3 was originally accidentally shipped with three testing-only language packs. Since Sunday January 14th, the language packs have been removed from the distribution, but if you downloaded Confluence before that date they will be present. These language packs are machine translations, and are not intended for use on production systems (unless you're a native German speaker and really want a good laugh). If you downloaded an affected copy of Confluence and want to remove these packs, delete de_DE-1.0.jar, ja_JP-1.0.jar and ru_RU-1.0.jar from confluence/WEB-INF/lib.

- You need to apply this patch to enable LDAP user integration: CONF-7585
- If you have problems restoring backups please apply the patch included in this issue: CONF-7584
- Due to class name changes, if you're upgrading from an existing system running:
  2. DB2 - you need to edit confluence.home/confluence.cfg.xml and replace bucket.dialect.DB2Dialect with com.atlassian.hibernate.dialect.DB2Dialect. More information in this issue: CONF-7690
- Log file atlassian-confluence.log is not presently generated. Please see these instructions for enabling it.

The Confluence 2.3 Team

Development
Tom Davies
Samuel Le Berrigaud
David Loeng
Charles Miller
Christopher Owen
Agnes Ro
Matt Ryall
Jens Schumacher
Don Willis

Maven Mavens
Michael Mekaail
Tony Traong

Oversight & Mismanagement
Mike Cannon-Brookes
Scott Farquhar

And one was there, a stripling on a small and weedy beast,
  He was something like a racehorse undersized,
With a touch of Timor pony — three parts thoroughbred at least —
  And such as are by mountain horsemen prized.
He was hard and tough and wiry — just the sort that won't say die —
  There was courage in his quick impatient tread;
And he bore the badge of gameness in his bright and fiery eye,
  And the proud and lofty carriage of his head.

- The Man from Snowy River, A. B. 'Banjo' Paterson

FileAppender log4j.properties

The 2.3 log4j.properties file doesn't specify a file for the FileAppender (because the necessary lines haven't been uncommented). Hence the log files normally generated via the file appender, logs/atlassian-confluence.log, is presently missing?

If you experience this situation and see errors in the logs such as:

```
log4j:WARN File option not set for appender [confluencelog].
log4j:WARN Are you using FileAppender instead of ConsoleAppender?
log4j:ERROR No output stream or file set for the appender named [confluencelog].
```

- Please uncomment the following lines in the log4j.properties file located under confluence/WEB-INF/classes and restart Confluence
  (ie remove the #'s)
Relevant resources

Confluence 2.3 Release Notes

Issues Resolved for 2.3

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: [0]; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (170 issues)</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-6106 Document cluster configuration</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6406 Ensure upgrade tasks for decorators are working.</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6595 Update CGLIB to 2.0.2</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6035 User and Group caches need to be aware of the repository they are caching for</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7488 excerpt-include doesn't work with news pages</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6104 Cluster admin screen</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6102 Make upgrade system work properly in a cluster</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6271 Create new plugin bundling system that will allow for user upgrades</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1033 Confluence Usage Statistics?</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1554 Make Confluence clusterable</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7196 Add events for look and feel changes</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6710 User macro plugin module type</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1026 Display times in user's timezone</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-3431 Confluence as a WebDav Server</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-6321 Allow Feedbuilder to choose to see content, diff, both, or none.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-1540 Centralised blogs page</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-7083 AccessLogFilter should log remote host</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-8726 User Event Logging and Reporting</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-928 Microsoft Word import</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
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<td>Issue</td>
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</tr>
<tr>
<td>---------</td>
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<tr>
<td>CONF-4281</td>
<td>Conditional-get for plugin resources</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-3780</td>
<td>User macros should be able to call macro plugins and user macros</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-847</td>
<td>Error Pages should refer to SITE ADMINSTRATORS</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-5354</td>
<td>Left hand menu should remember what's open</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6564</td>
<td>Referral queue holding on to Hibernate sessions</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-4862</td>
<td>Use a page's content ID as the filename when exporting as HTML</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7702</td>
<td>Leftnav theme should not add background colours to headers h2 to h4</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6034</td>
<td>Multiple LDAP repositories</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-6503</td>
<td>Improve and simplify cache statistics page</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-3337</td>
<td>Allow configuration of default search</td>
<td>Resolved Duplicate</td>
</tr>
<tr>
<td>CONF-3519</td>
<td>Support &quot;Edit attachment via WebDAV&quot;</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-6100</td>
<td>Add caching to database-backed Bandana</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-514</td>
<td>Shortcut Links should have title &amp; display values</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6323</td>
<td>Add warning to Setup Wizard's &quot;Create Empty Database&quot; when there's existing data</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6375</td>
<td>Remove usernames from people directory</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6420</td>
<td>Uninstall bad plugins, enforce module load order, enable/disable modules themselves</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-5874</td>
<td>Search should use AND logic by default</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-4955</td>
<td>Confluence users should inherit permissions from the anonymous user</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6319</td>
<td>Make sure Change Comment is shown in RSS view.</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-3888</td>
<td>Blog post macro: add support for showing blog posts from multiple spaces.</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6588</td>
<td>css: auto overflow for .preformatted</td>
<td>Closed Duplicate</td>
</tr>
<tr>
<td>CONF-7212</td>
<td>Improve caching of static resources</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7552</td>
<td>typo in RSS feed screen - 'Attachmends' should be 'Attachments'</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6688</td>
<td>Bundle the Confluence Repo Client created by Dan Hardiker to offer a plugin download&amp;install interface</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6726</td>
<td>Move default-formatting.properties from filesystem to database</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6968</td>
<td>Add tab for personal spaces to dashboard</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6034</td>
<td>Multiple LDAP repositories</td>
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</tr>
<tr>
<td>CONF-6420</td>
<td>Uninstall bad plugins, enforce module load order, enable/disable modules themselves</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-5874</td>
<td>Search should use AND logic by default</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-4955</td>
<td>Confluence users should inherit permissions from the anonymous user</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6319</td>
<td>Make sure Change Comment is shown in RSS view.</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-3888</td>
<td>Blog post macro: add support for showing blog posts from multiple spaces.</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6588</td>
<td>css: auto overflow for .preformatted</td>
<td>Closed Duplicate</td>
</tr>
<tr>
<td>CONF-7212</td>
<td>Improve caching of static resources</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7552</td>
<td>typo in RSS feed screen - 'Attachmends' should be 'Attachments'</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6688</td>
<td>Bundle the Confluence Repo Client created by Dan Hardiker to offer a plugin download&amp;install interface</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6726</td>
<td>Move default-formatting.properties from filesystem to database</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-6968</td>
<td>Add tab for personal spaces to dashboard</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>ID</td>
<td>Description</td>
<td>Resolution</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>CONF-7101</td>
<td>Draft merge failure logging is too verbose</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6663</td>
<td>Make the &quot;Visit page outside Confluence&quot; tooltip more user customisable</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7251</td>
<td>Plugins need to link stylesheet manually if space-specific colour scheme is to be used</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-3246</td>
<td>Shortcut links, append-only limitation</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6678</td>
<td>Tab from comment writing should go to Post button</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7314</td>
<td>Error page (500page.jsp) should suggest Confluence admin to create support case</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4638</td>
<td>Uploaded plugin classes are inaccessible from other plugins</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7528</td>
<td>Error page should ask users to contact Confluence administrator</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6805</td>
<td>Increase Standalone performance with platform-specific Apache Tomcat Portable Runtime Project library</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7321</td>
<td>Comments should be enabled by default for personal spaces</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4845</td>
<td>Bundle different web.xml files with the distribution to support Resin 3.x out of the box</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4565</td>
<td>Add overflow control to pre and code blocks via CSS</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6344</td>
<td>Page restrictions based on group names should be case-insensitive</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7097</td>
<td>Rename permission Administrate Confluence to Administer Confluence</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4207</td>
<td>Allow plugins to use the full Spring config XML</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6103</td>
<td>Move all non-bootstrap configuration out of confluence.cfg.xml</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-3281</td>
<td>HTML export of a space - links on pages always resolve locally, even if the linked page was not exported</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4671</td>
<td>web.xml 2.4/Resin 3.x Schema Violation</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4322</td>
<td>Icons missing in HTML-Export of space</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4958</td>
<td>HTML export fails to include all attachments</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5556</td>
<td>Can not add groups with commas in the name to space permissions</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7386</td>
<td>LoginFilter does not redirect to absolute destinations correctly</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6517</td>
<td>NullPointerException in AbstractUserProfileAction.getPersonalSpaceKey</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6527</td>
<td>Rich text editor loses leading spaces in first line after 'noformat' tag.</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7392</td>
<td>Non labelable content inherits labels from previous hit in search results</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5781</td>
<td>Certain PNG images in pages cause corrupt PDF exports for pre Java 1.5</td>
<td>Duplicate</td>
</tr>
<tr>
<td>#</td>
<td>Issue ID</td>
<td>Description</td>
</tr>
<tr>
<td>-----</td>
<td>-----------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>CONF-1881</td>
<td>Default search behaviour should be &quot;AND&quot; for multi-term search</td>
</tr>
<tr>
<td>2</td>
<td>CONF-7407</td>
<td>System Error: Confluence cannot be started on Vista with Java 6 RC</td>
</tr>
<tr>
<td>3</td>
<td>CONF-7408</td>
<td>Personal spaces listed under &quot;global spaces&quot; in search space drop-down</td>
</tr>
<tr>
<td>4</td>
<td>CONF-5930</td>
<td>Restore a backup from the filesystem: bucket.core.InfrastructureException: java.lang.OutOfMemoryError</td>
</tr>
<tr>
<td>5</td>
<td>CONF-7358</td>
<td>Plugin resource downloads fail if they use a plugin key in the URL</td>
</tr>
<tr>
<td>6</td>
<td>CONF-5489</td>
<td>Trackbacks are broken</td>
</tr>
<tr>
<td>7</td>
<td>CONF-1155</td>
<td>Export of page which includes other pages loses images</td>
</tr>
<tr>
<td>8</td>
<td>CONF-5475</td>
<td>The resources of language packs are not recognised when uploaded through the plugin interface</td>
</tr>
<tr>
<td>9</td>
<td>CONF-5284</td>
<td>User Macros not restored after a full restore</td>
</tr>
<tr>
<td>10</td>
<td>CONF-6059</td>
<td>Confluence breaks with cglib error on JDK 1.6</td>
</tr>
<tr>
<td>11</td>
<td>CONF-7420</td>
<td>Liveness search does not work any more and throws exception</td>
</tr>
<tr>
<td>12</td>
<td>CONF-6105</td>
<td>Fix import/export of database-backed Bandana settings</td>
</tr>
<tr>
<td>13</td>
<td>CONF-5919</td>
<td>Setup should display error when database user does not have permissions to create tables</td>
</tr>
<tr>
<td>14</td>
<td>CONF-7424</td>
<td>Typos on excerpt macro in Notation Guide</td>
</tr>
<tr>
<td>15</td>
<td>CONF-6926</td>
<td>SQL Macro does not work on the extranet</td>
</tr>
<tr>
<td>16</td>
<td>CONF-7428</td>
<td>Liveness search macro throws exception when spacekey not specified</td>
</tr>
<tr>
<td>17</td>
<td>CONF-6366</td>
<td>People with personal spaces do not appear in people directory search</td>
</tr>
<tr>
<td>18</td>
<td>CONF-6345</td>
<td>Seemingly random people listed as favourites in the people directory</td>
</tr>
<tr>
<td>19</td>
<td>CONF-6385</td>
<td>Space admin tab is visible to non-space admins</td>
</tr>
<tr>
<td>20</td>
<td>CONF-6408</td>
<td>Make plugin modules state aware</td>
</tr>
<tr>
<td>21</td>
<td>CONF-3331</td>
<td>Export process is not able to export thumbnails.</td>
</tr>
<tr>
<td>22</td>
<td>CONF-7433</td>
<td>Indenting does not work for bullet lists in rich text editor</td>
</tr>
<tr>
<td>23</td>
<td>CONF-6339</td>
<td>Velocity cache never gets cleared</td>
</tr>
<tr>
<td>24</td>
<td>CONF-6418</td>
<td>People Directory number of found users does not match the number of actual users displayed</td>
</tr>
<tr>
<td>25</td>
<td>CONF-6431</td>
<td>Tree view in browse space fails with NPE</td>
</tr>
<tr>
<td>26</td>
<td>CONF-6432</td>
<td>Dynamic tasklist atlassian-plugin.xml lists components in the wrong order</td>
</tr>
<tr>
<td>Conf</td>
<td>Description</td>
<td>Status</td>
</tr>
<tr>
<td>------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>CONF-5955</td>
<td>Old version of cglib 2.0 creates problems with Java 2 security in WebSphere 5.1</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-1852</td>
<td>We don't index user details</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6317</td>
<td>WebUI plugins are unable to properly display the I18N-value of the link name</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6876</td>
<td>Temp directory cleanup job should be separate to BackupJob</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6657</td>
<td>HTML Export: Duplicate attached images</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4773</td>
<td>Long running task view should display a red bar when the task fails, not green bar.</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7181</td>
<td>The link table can have rows with spurious space keys inserted</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7189</td>
<td>Export to PDF &amp; broken (attachment) macro links</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7195</td>
<td>CAPTCHA uses a predictable temp file</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7363</td>
<td>Clicking on a news attachment from recently updated list takes you to an incorrect page</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4219</td>
<td>Can not render wiki content as inline text using user macros</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6701</td>
<td>Quotes around image parameters produce invalid HTML</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6728</td>
<td>Confluence app server restart throws away Date/Time format settings</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6773</td>
<td>Improve validation of character encoding</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6675</td>
<td>Deadlock during user creation</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6695</td>
<td>RSS feed for non-existing space throws exceptions</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6817</td>
<td>Missing localization strings for Notation Guide</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-6935</td>
<td>Remote API method getPermissions() only returns &quot;modify&quot; for space admins</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6973</td>
<td>Thumbnail does not get downloaded on the first time it is viewed</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6974</td>
<td>Users who can not view a page due to page level permissions can still see the edit tab</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-1956</td>
<td>Umlaut in space title breaks PDF export</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6995</td>
<td>Rich text editor inserts images with no space between text and '!'</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6999</td>
<td>Search not finding specific page</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-7035</td>
<td>Draft form can be submitted with multiple space keys</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-7038</td>
<td>User with null email address breaks daily report job</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7014</td>
<td>XStream introspection cache not cleared when plugin upgraded</td>
<td>Resolved</td>
</tr>
<tr>
<td>ID</td>
<td>Description</td>
<td>Status</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>CONF-7050</td>
<td>labelString attribute doesn't restrict RSS feeds</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7061</td>
<td>Some notification links don't include the base URL</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7059</td>
<td>If you install a plugin compiled against the wrong java version, you can't uninstall it.</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7093</td>
<td>EmbeddedRenderer incorrectly</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7015</td>
<td>Bandana table not found on upgrade to Confluence 2.3-dev</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7126</td>
<td>Oops on EAC staff home info page</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-6084</td>
<td>Captcha is not shown on reply-to comment form</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7134</td>
<td>groupSearchAllDepths and userSearchAllDepths not respected</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7117</td>
<td>not all LDAP groups shown</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7218</td>
<td>&quot;View Conflict&quot; link on drafts page results in ClassCastException</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-7467</td>
<td>Confluence slow - looking up space permissions</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7305</td>
<td>For comments, first CAPTCHA word fails</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7315</td>
<td>Confluence HTML renders does not recognise styles applies to links</td>
<td>Closed</td>
</tr>
<tr>
<td>CONF-7319</td>
<td>Cannot cancel space removal</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7323</td>
<td>Content properties not removed when associated content is deleted</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7018</td>
<td>Cannot delete space mysql</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7336</td>
<td>Space import fails on content properties without associated content</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7359</td>
<td>Clickr Theme Missing some CAPTCHA fields</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7322</td>
<td>Jiraissues macro doesn't show icons or timestamps</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7337</td>
<td>Clickr plugin: ClassCastException changing tabs from attachments to edit on a blog post.</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7286</td>
<td>RSS Feeds listed under the Advanced &gt; RSS Feeds section don't work</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7197</td>
<td>No difference between modified and created RSS feed status</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-7352</td>
<td>Attachment versions not working</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-4679</td>
<td>Scheduled tasks should <em>not</em> be started before or during an upgrade</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5336</td>
<td>HTML Export fails to redirect URL attachments to the &quot;locally&quot; exported directory structure</td>
<td>Resolved</td>
</tr>
<tr>
<td>CONF-5642</td>
<td>Incorrect html links in Export Space</td>
<td>Resolved</td>
</tr>
</tbody>
</table>
Release Notes 2.3.1

Confluence 2.3.1 is a maintenance release that resolves an assortment of issues users may have encountered using Confluence 2.3.

2.3.1 is a free upgrade for all customers who purchased their Confluence license after January 23rd, 2006.

Who should upgrade?

Confluence 2.3.1 is a bugfix release which resolves some significant issues in Confluence 2.3. Customers running Confluence 2.3 should review the list of resolved issues below, and upgrade if this release fixes any problems with their current Confluence installation.

Customers running releases older than 2.3 and wishing to upgrade should use this version also.

Significant issues for customers upgrading to Confluence 2.3
**LDAP integration:** Confluence 2.3 shipped with a broken user migration script for customers wishing to integrate LDAP servers with their Confluence installation. 2.3.1 ships with a fixed version of this script which can also be obtained from CONF-7585.

**Upgrading with MySQL:** Customers using Confluence with MySQL may have had difficulty upgrading their instances to Confluence 2.3. This issue has been resolved in 2.3.1.

**Significant issues for existing Confluence 2.3 users**

- **Backup import:** Confluence 2.3 users wishing to import backups into their Confluence instance should upgrade to 2.3.1 or apply the patch listed against CONF-7584.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from another Confluence 2.2.x or Confluence 2.3 version, you can find instructions here. We strongly recommend that you **backup your `confluence.home` directory and database before upgrading!**

**Upgrading from Confluence 2.1 and earlier**

Users upgrading directly from 2.1 or earlier should also read the [2.2 Release Notes](#) for caveats regarding the 2.1 -> 2.2 upgrade.

**Changes in 2.3.1**

2.3.1 resolves 20 issues. All these issues are listed below:

Errors were reported by the JIRA trusted connection.

*Errors were reported by the JIRA trusted connection.*

- **APP_UNKNOWN; Unknown Application: [0]; ["confluence:4557196"]**

**JIRA Issues (22 issues)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF</td>
<td>1643</td>
<td>Comments to pages should be wrapper to make sure they fit in the page</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7222</td>
<td>Create user does trim() usernames</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7483</td>
<td>Mail notification templates contain un-internationalised text</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7489</td>
<td>Uninstalling a bundled plugins causes stack trace</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7534</td>
<td>Cluster setup workflow could be improved</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7546</td>
<td>Page Comparison information shown is wrong / missing</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7556</td>
<td>Javascript in create space page disables checkbox without un-checking it</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7562</td>
<td>Login link on forgot password page redirects to an error after logging in</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7573</td>
<td>Dashboard Exception with Space List macro</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7574</td>
<td>User Preferences results in an empty screen</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7575</td>
<td>Confluence 2.3 - &quot;Vor kurzem Aktualisiert&quot; instead of &quot;Recently Updated&quot;</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7578</td>
<td>Missing text $(generalUtil.buildDateString)</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7580</td>
<td>Testing language packs made it into the final build... again.</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7581</td>
<td>Missing Europe/London timezone causes runtime errors</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7584</td>
<td>Restore backup fails with &quot;Import failed. null&quot; error</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7585</td>
<td>osuser2alluser.jsp throws JasperException</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7589</td>
<td>Upgrade to 2.3 with MySQL causes error - Dialect class not found: bucket.dialect.MySQLDialect</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
Release Notes 2.3.2

Confluence 2.3.2 is a maintenance release that resolves an assortment of issues users may have encountered using Confluence 2.3.1

Warning for LDAP users
Confluence 2.3.2 has a serious bug that prevents it from working with LDAP servers. Please use Confluence 2.3.3 instead.

2.3.2 is a free upgrade for all customers who purchased their Confluence license after February 12th, 2006.

Who should upgrade?
Confluence 2.3.2 is a bugfix release which resolves some significant issues in Confluence 2.3.1 Customers running Confluence 2.3.1 and 2.3 should review the list of resolved issues below, and upgrade if this release fixes any problems with their current Confluence installation.

Customers running releases older than 2.3 and wishing to upgrade should use this version also.

Upgrade Procedure
Upgrading Confluence should be pretty easy. If you are upgrading from another Confluence 2.2.x or Confluence 2.3 version, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

Upgrading from Confluence 2.1 and earlier
Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.

Changes in 2.3.2

2.3.2 resolves 22 issues. All these issues are listed below:

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (22 Issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>CONF-6371</td>
</tr>
<tr>
<td>CONF-6494</td>
</tr>
<tr>
<td>CONF-7335</td>
</tr>
<tr>
<td>CONF-7410</td>
</tr>
<tr>
<td>CONF-7608</td>
</tr>
<tr>
<td>CONF-7654</td>
</tr>
<tr>
<td>CONF-7688</td>
</tr>
<tr>
<td>CONF-7663</td>
</tr>
<tr>
<td>CONF-7688</td>
</tr>
<tr>
<td>CONF-7690</td>
</tr>
<tr>
<td>CONF-7751</td>
</tr>
</tbody>
</table>
Release Notes 2.3.3

Confluence 2.3.3 is a maintenance release that resolves an assortment of issues users may have encountered using Confluence 2.3.2. 2.3.3 is a free upgrade for all customers who purchased their Confluence license after February 14th, 2006.

Who should upgrade?

Confluence 2.3.3 is a bugfix release which resolves some significant issues in Confluence 2.3.2 Customers running Confluence 2.3.2, 2.3.1 and 2.3 should review the list of resolved issues below, and upgrade if this release fixes any problems with their current Confluence installation.

Customers running releases older than 2.3 and wishing to upgrade should use this version also.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from another Confluence 2.2.x or Confluence 2.3 version, you can find [instructions here](#). We strongly recommend that you backup your `confluence.home` directory and database before upgrading!

Upgrading from Confluence 2.1 and earlier

Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.

Changes in 2.3.3

2.3.3 resolves 4 issues. All these issues are listed below:

Errors were reported by the JIRA trusted connection.

- `APP_UNKNOWN; Unknown Application: {0};` ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (5 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>CONF-5701</td>
</tr>
<tr>
<td>CONF-6986</td>
</tr>
<tr>
<td>CONF-7855</td>
</tr>
<tr>
<td>CONF-7862</td>
</tr>
<tr>
<td>CONF-8210</td>
</tr>
</tbody>
</table>

Release Notes 2.4

The Atlassian Confluence team is proud to present to you Confluence 2.4! What happened to 2.4 and 2.4.1? Let's just say we gave them a good workout.

Confluence 2.4 is the ninth release of Confluence. It introduces much awaited support for editable comments, the ability to mail a page to groups of users and includes the usual slew of fixes since the last stable release.
Confluence 2.4 is the first in a series of frequent, small releases planned for the first half or 2007, that will help us get the functionality you want from Confluence, faster. For more information on our new release schedule, you might want to read this blog post.

Confluence 2.4.2 is a free upgrade for any customer who purchased Confluence after March 13th, 2006.

Upgrading from Confluence 2.2.x and 2.3.x

Upgrading Confluence should be fairly straightforward: you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

Upgrading from Confluence 2.1 and earlier

Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.

Contents

1. New Features
2. Improvements

See also: Issues Resolved for 2.4.2

New Features

Editable Comments

Say so long! to those annoying typos and ill-structured sentences as comments in Confluence are now editable. Comments may be edited by the original author or the administrator for the space in which the comment was posted.

Confluence has a ten minute grace period after the comment is posted in which updates will not be flagged in the user interface. This is in acknowledgment of the fact that most edits within this period are for correcting minor typos and formatting which will not impact the flow of conversation.

For more information, see the Confluence user guide: Editing a Comment

Page Mailing

Confluence 2.4 ships with the Mail Page plugin allowing users to conveniently send the contents of a Confluence page to other interested parties. You can easily specify who you want the page mailed to by using a combination of:

- Email addresses
- Confluence user names
- Confluence group names

For security reasons, the Mail Page plugin is disabled by default. If you want to use this feature, an administrator will have to enable it. There must also be a mail server configured in the Confluence instance for this operation to be available.
This operation is reached via a page's Info tab.

For more information, see the Confluence user guide: E-mailing a Page

**Improvements**

- The People Directory no longer shows inactive users (CONF-7771)
- Log messages now have more context such as the URL of the page being displayed and the name of the logged in user (CONF-7878)

**The Confluence 2.4 Team**

**Development**
Tom Davies
Matthew Jensen
Samuel Le Berrigaud
David Loeng
Charles Miller
Christopher Owen
Agnes Ro
Matt Ryall
Don Willis

**Oversight & Management**
Mike Cannon-Brookes
Scott Farquhar

**Changes to the Page Permission API in Confluence 2.4**

Confluence 2.4 contains changes to the Confluence API that will affect any plugins that modify Page Permissions (aka ContentPermissions). Some methods have been deprecated, some new methods have been created, and one method now behaves differently from before.

Confluence 2.4 does not support having multiple view and edit permissions on a page. The Content Permission API allows such a state, but it should be avoided. For example, if a Page has multiple permissions set on it, these permissions will not be displayed properly via the user interface, and the pages may not be returned appropriately in a search.
Summary of Changes

<table>
<thead>
<tr>
<th>Deprecated methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>ContentPermissionManager.getInheritedViewContentPermissions(Page)</td>
</tr>
<tr>
<td>ContentPermissionManager.getInheritedContentPermissions(ContentEntityObject contentEntityObject)</td>
</tr>
<tr>
<td>ContentEntityObject.getPermissions()</td>
</tr>
<tr>
<td>ContentEntityObject.getContentPermission(String permissionType)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Changed methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>ContentPermissionManager.addContentPermission(ContentPermission permission, ContentEntityObject content)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Added methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>ContentPermissionManager.setContentPermissions(List contentPermissions, ContentEntityObject content, String type)</td>
</tr>
<tr>
<td>ContentPermissionManager.getInheritedContentPermissionSets(ContentEntityObject contentEntityObject)</td>
</tr>
<tr>
<td>ContentEntityObject.getContentPermissionSet(String type)</td>
</tr>
<tr>
<td>ContentEntityObject.hasPermissions(String type)</td>
</tr>
<tr>
<td>ContentEntityObject.removeContentPermissionSet(ContentPermissionSet set)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Removed methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>ContentPermissionManager.saveContentPermission(ContentPermission permission)</td>
</tr>
<tr>
<td>ContentPermissionManager.getContentUserPermission(ContentEntityObject contentEntityObject)</td>
</tr>
<tr>
<td>ContentEntityManager.onContentContextChanged(ContentEntityObject contentEntityObject)</td>
</tr>
<tr>
<td>ContentEntityObject.setPermissions(List permissions)</td>
</tr>
<tr>
<td>ContentEntityObject.clearPermissions(ContentPermissionManager permissionManager)</td>
</tr>
</tbody>
</table>

The change most likely to cause problems is:

ContentPermissionManager.addContentPermission(ContentPermission permission, ContentEntityObject content)

This method now adds a ContentPermission to the ContentEntityObject as one would expect. Previously if a ContentPermission already existed on the ContentEntityObject, then any existing ContentPermission would be removed. That is, the method really behaved as one would expect “setContentPermission” to behave. As a result, any code that used addContentPermission in Confluence 2.3 or earlier, should now use setContentPermissions with a single entry list.

Example conversion of old addContentPermission usage

```java
replace
    ContentPermissionManager.addContentPermission(p, c)
with
    ContentPermissionManager.setContentPermissions(java.util.Collections.singletonList(p), c, p.getType())
```

Most methods that used to return a ContentPermission have been replaced with methods that return a ContentPermissionSet. In some places we have used deprecation to point to the new method and reimplemented the old method to extract the first ContentPermission from the ContentPermissionSet.

As usual, the methods on the ContentPermissionManager should be used rather than those on the ContentEntityObject. The only ContentEntityObject method that should be used is getContentPermissionSet. Even that method should be used only to display the existing Permissions. All writes to the ContentPermissionSets should be performed via the ContentPermissionManager.

The onContentContextChanged method of the ContentPermissionManager was previously used to notify a ContentPermissionManager that cached permissions on a ContentEntityObject may be invalid. This is now accomplished by publishing a ContentPermissionEvent. That event is published automatically when changing ContentPermissions via the ContentPermissionManager.

No changes have been made yet to the the XML RPC API. It does not currently allow modification of ContentPermissions.

Release Notes 2.4.1

The Atlassian Confluence team is proud to present to you Confluence 2.4.2! What happened to 2.4 and 2.4.1? Let's just say we gave them a good workout.

Confluence 2.4 is the ninth release of Confluence. It introduces much awaited support for editable comments, the ability to mail a page to groups of users and includes the usual slew of fixes since the last stable release.

Confluence 2.4 is the first in a series of frequent, small releases planned for the first half or 2007, that will help us get the functionality you
Confluence 2.4.2 is a free upgrade for any customer who purchased Confluence after March 13th, 2006.

Upgrading from Confluence 2.2.x and 2.3.x

Upgrading Confluence should be fairly straightforward: you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

Upgrading from Confluence 2.1 and earlier

Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.

Contents

1. New Features
2. Improvements

See also: Issues Resolved for 2.4.2

New Features

Editable Comments

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This operation is reached via a page's Info tab.

For more information, see the Confluence user guide: E-mailing a Page

Improvements

- The People Directory no longer shows inactive users (CONF-7771)
- Log messages now have more context such as the URL of the page being displayed and the name of the logged in user (CONF-7878)

The Confluence 2.4 Team

Development
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Charles Miller
Christopher Owen
Agnes Ro
Matt Ryall
Don Willis

Oversight & Management
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Scott Farquhar

Release Notes 2.4.2

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Confluence 2.4.2 is a free upgrade for any customer who purchased Confluence after March 13th, 2006.

Upgrading from Confluence 2.2.x and 2.3.x

Upgrading Confluence should be fairly straightforward: you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!
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Contents

1. New Features
2. Improvements

See also: Issues Resolved for 2.4.2

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The Confluence 2.4 Team

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Issues Resolved for 2.4.2

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (38 issues)</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-8164 When exporting a space to restore on another system, change history is lost</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-8045 Can't delete template with previous version</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-8032 Use HTML id instead of empty named anchors in headings</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>Conf-Number</td>
<td>Issue Description</td>
<td>Resolution Status</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>CONF-8029</td>
<td>Outdated event listener interface warning should be logged at a lower priority</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-8018</td>
<td>Page list template renders broken page title when greater than 64 characters</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-8014</td>
<td>To provide easier configuration between Crowd and Confluence the attached crowd-ehcache.xml file will need to be added to the confluence release</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7989</td>
<td>Fix display for my favourite labels - $webwork.htmlEncode($textUtils.trimToEndingChar($page.realTitle, 60))</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7953</td>
<td>CSS and Javascript not loaded in Websphere 6.1.0.5</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7939</td>
<td>Confluence atlassian-user.xml has typo for Crowd integration.</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7926</td>
<td>Template Lists Fail with Non-English Characters</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7925</td>
<td>SQLException on Sybase and SQL Server - Invalid column name 'creationDate'</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-7895</td>
<td>Feed builder only builds private feeds</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7878</td>
<td>Add RenderContext information to exceptions that filter through the Wiki Renderer</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7854</td>
<td>Error deleting template that has been edited</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7843</td>
<td>Restoring a site backup can set cluster nodes to use file system attachment storage</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-7815</td>
<td>Some DBs incorrectly use Postgres lower casing</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7788</td>
<td>Insert link dialog doesn't search properly</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7786</td>
<td>Exclude space group from space export</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7783</td>
<td>Don't include user profiles in daily changed reports in shared mode</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7770</td>
<td>Add ability to select a space group in the create space form</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7769</td>
<td>Update atlassian-extras dependency to 0.7.32</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7768</td>
<td>Add &quot;Groups&quot; tab in space list macro on dashboard for Space Groups</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7759</td>
<td>Truncate email subjects longer than 255 characters</td>
<td>Closed Fixed</td>
</tr>
<tr>
<td>CONF-7757</td>
<td>Add importSpace method to RPC interfaces</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7739</td>
<td>Some content migrated from 2.0 to 2.3 fails to render (due to:- system error: java.lang.String java.lang.ClassCastException: java.lang.String)</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7690</td>
<td>Upgrade fails for DB2 due to incorrect dialect</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7678</td>
<td>Lazy init exception checking attachment permissions</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7663</td>
<td>Searches return no results after initial index of upgraded data, until content is updated</td>
<td>Resolved Fixed</td>
</tr>
<tr>
<td>CONF-7661</td>
<td>README files in confluence-2.3 have URLs that refer to non-existent pages</td>
<td>Resolved Fixed</td>
</tr>
</tbody>
</table>
Release Notes 2.4.3

Confluence 2.4.3 is a maintenance release that resolves an assortment of issues users may have encountered using Confluence 2.4.2. 2.4.3 is a free upgrade for all customers who purchased their Confluence license after March 22nd 2006.

Who should upgrade?

Confluence 2.4.3 is a recommended upgrade release which resolves some significant issues in Confluence 2.4.2. Customers running older versions of Confluence should review the list of resolved issues below, and upgrade if this release fixes any problems with their current Confluence installation.

Customers running releases older than 2.4 and wishing to upgrade should use this version also.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from another Confluence 2.2.x or Confluence 2.3 version, you can find instructions here.

*We strongly recommend that you backup your confluence.home directory and database before upgrading!*

Upgrading from Confluence 2.1 and earlier

Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.

Changes in 2.4.3

2.4.3 resolves 15 issues. All these issues are listed below:

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

### JIRA Issues (15 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONF-6058</td>
<td>Group picker for page restrictions silently hides non-member groups, may need clarifying sentence added</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-6505</td>
<td>Comment index entries do not inherit permissions correctly</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-6907</td>
<td>New license types footers</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-7416</td>
<td>LazyInitializationException on page create preview when page contains un-resolveable embedded image</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
Release Notes 2.4.4

Confluence 2.4.4 is a recommended upgrade release that resolves issues users may have encountered using Confluence 2.4.3 or earlier. 2.4.4 is a free upgrade for all customers who purchased their Confluence license after March 30th 2006.

Who should upgrade?

Confluence 2.4.4 is a recommended upgrade release that resolves issues users may have encountered using Confluence 2.4.3 or earlier. Customers running older versions of Confluence should review the list of resolved issues below, and upgrade if this release fixes any problems with their current Confluence installation.

Customers running releases older than 2.4 and wishing to upgrade should upgrade directly to 2.4.4.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from another Confluence 2.2.x or Confluence 2.3 version, you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

Upgrading from Confluence 2.1 and earlier

Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.

Source Release

Please note that the source release for 2.4.4 is currently unavailable. We have scheduled a fix for this which should be included in 2.4.5. Please see CONF-8007 for more details.

Changes in 2.4.4

2.4.4 resolves 17 issues. All these issues are listed below:

Errors were reported by the JIRA trusted connection.

- **APP_UNKNOWN: Unknown Application: [0]; ["confluence:4557196"]**

JIRA Issues (19 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONF-7564</td>
<td>&quot;Advanced&quot; space tab should show 'personal space' icon instead of 'user profile' icon</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-7717</td>
<td>Rich text editor breaks shortcut links with custom titles</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-7725</td>
<td>IllegalStateException &quot;zip file closed&quot; occurring in plugins</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-7898</td>
<td>AttachmentsSoapService getAttachmentData doesn't close inputStream</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-7922</td>
<td>Personal Edition - &quot;Evaluate Confluence&quot; Link Broken At Bottom Of All Pages</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-8001</td>
<td>When using LDAP with a cluster, a user cannot log into the second node if they previously logged into the first node</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-8039</td>
<td>Create Space form gives option of anonymous access, even when not enabled globally</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-8048</td>
<td>REGRESSION: &quot;View Change&quot; link missing</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-8050</td>
<td>zip_src from tiny mce served without caching headers on extranet</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-8056</td>
<td>Disabled upgraded bundled plugins are reenabled on startup</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td>CONF-8077</td>
<td>Attachment file names not HTML encoded in attachment list</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
Release Notes 2.4.5

Confluence 2.4.5 is a maintenance release that resolves issues users may have encountered using Confluence 2.4.4 or earlier.

2.4.5 is a free upgrade for all customers who purchased their Confluence license after April 12th 2006.

Who should upgrade?

Confluence 2.4.5 is a recommended upgrade release which resolves some significant issues in Confluence 2.4.4. Customers running older versions of Confluence should review the list of resolved issues below, and upgrade if this release fixes any problems with their current Confluence installation.

Customers running releases older than 2.4 and wishing to upgrade should upgrade directly to 2.4.5.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from another Confluence 2.2.x or Confluence 2.3 version, you can find instructions here.

*We strongly recommend that you backup your confluence home directory and database before upgrading!*

Upgrading from Confluence 2.1 and earlier
Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.

### Changes in 2.4.5

2.4.5 resolves these issues:

- Errors were reported by the JIRA trusted connection.
  - APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

### JIRA Issues (14 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-5756</td>
<td>After moving a page with attachments to a new Space, the attachments are listed in the old Space not on the new Space</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6068</td>
<td>So when/how do you fix the problem?</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6461</td>
<td>Can see other Users Profile/Personal Spaces hybrid in Recently Updated even if you don't have permissions to view them.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7606</td>
<td>Incorrect associated &lt;label&gt; tags on administration page</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7832</td>
<td>Documentaion on adding a template to a space is not up to date for 2.3</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8007</td>
<td>Fix confluence source release</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8078</td>
<td>Error page if new password doesn't match Crowd password validation</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8152</td>
<td>References to scriptaculous files are wrong</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8185</td>
<td>Cached TinyMCE Servlet doesn't handle BaseURL Changes or Multi-homed environment</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8228</td>
<td>On/off list components have inappropriate HTML IDs</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8393</td>
<td>Plugin repository client 2.0.2 fails to update plugins</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8426</td>
<td>Clicking on Preferences-&gt;Edit Profile-&gt;Email-&gt;Cancel leads to a blank screen</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8501</td>
<td>Unable to load plugins through the plugin repository - Status Code 302</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8916</td>
<td>Create patch to CONF-8877 for Confluence 2.5.4</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>

### Release Notes 2.5

The Atlassian Confluence team is proud to present Confluence 2.5. Confluence 2.5 is the tenth release of Confluence. It introduces more flexible page restrictions, and also includes a number of minor fixes.

Confluence 2.5 is a free upgrade for any customer who purchased Confluence after April 27th, 2006.

#### Upgrading from Confluence 2.2 and later

Upgrading Confluence should be fairly straightforward: you can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

#### Upgrading from Confluence 2.1 and earlier

Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.

#### Introducing flexible page restrictions

Page restrictions give you the ability to choose who may read and/or edit any given page.
By popular request, page restrictions have been enhanced and can now be assigned to multiple people and/or groups:

![Restrictions](image)

Other significant issues resolved

**Dynamic task list JRE incompatibilities**

Many customers have been prevented from upgrading the Java runtime hosting their Confluence instance due to CONF-4082, an issue which would prevent existing dynamic task lists from working with the new JRE. This issue has been resolved in Confluence 2.5 allowing dynamic task list users to upgrade and downgrade between Java versions without experiencing conversion exceptions.

**contentbylabel macro supports AND condition**

You may now use the operator=AND parameter with the contentbylabel macro to select pages that have all of the supplied labels. (CONF-4969)

The Confluence 2.5 Team

**Development**
- Tom Davies
- Matthew Jensen
- Samuel Le Berrigaud
- David Loeng
- Charles Miller
- Christopher Owen
- Agnes Ro
- Matt Ryall
- Don Willis

**Oversight & Management**
- Mike Cannon-Brookes
- Scott Farquhar

**Issues Resolved for 2.5**

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: [0]; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (48 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><img src="image" alt="CONF-8810" /></td>
<td>CONF-8810</td>
<td>IMD1-A003N: Deadlock when working with Bandana table, database locks and thread locks</td>
<td><img src="image" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="CONF-8426" /></td>
<td>CONF-8426</td>
<td>IDM1-A003N: Clicking on Preferences-&gt;Edit Profile-&gt;Email-&gt;Cancel leads to a blank screen</td>
<td><img src="image" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="CONF-8403" /></td>
<td>CONF-8403</td>
<td>The code macro inserts a new line at its end</td>
<td><img src="image" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="CONF-8393" /></td>
<td>CONF-8393</td>
<td>Plugin repository client 2.0.2 fails to update plugins</td>
<td><img src="image" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="CONF-8330" /></td>
<td>CONF-8330</td>
<td>user X moving a page created by user Y triggers a notification for each child in heirarchy, attributed to user Y</td>
<td><img src="image" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="CONF-8321" /></td>
<td>CONF-8321</td>
<td>Implement setting page permissions thru XML-RPC and SOAP</td>
<td><img src="image" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td>Ticket</td>
<td>Description</td>
<td>Status</td>
<td>Resolution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------</td>
<td>------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8301</td>
<td>recently-updated throws NullPointerException when no pages with label found</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8299</td>
<td>Remove group or user should remove content permissions that are assigned to them</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8285</td>
<td>HTML Blogpost navigation have a trailing ‘}’ in the space link.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8283</td>
<td>remove comment notification wrongly claims that the comment author is the comment remover</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8282</td>
<td>Newline collapsing between horizontal rule and the following element screws things up</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8278</td>
<td>Create Space Button disables embedded images</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8275</td>
<td>Info macros help not internationalized</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8271</td>
<td>Confluence tries to index non text files as text, e.g. .wnk files crunch search</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8269</td>
<td>Bundled plugins without internationalized help text.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8259</td>
<td>Anonymous user should not be allowed to set page permissions</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8255</td>
<td>Links of PDF export from Confluence Space are all web links instead of local links</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8250</td>
<td>JIRA issues macro should use nofollow for refresh and main title link</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8242</td>
<td>create-space-button macro throws NPE when using preview</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8221</td>
<td>Using page mailing, page link is not ok for news</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8206</td>
<td>Confluence jar shipped in standalone lib directory</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8205</td>
<td>Custom SQL query on ancestors table breaks Firebird</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8150</td>
<td>Email search is case sensitive, makes search difficult.</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8111</td>
<td>Livesearch throws exception if search term contains spaces</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-8043</td>
<td>Better Crowd Integration (from a user's perspective)</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-7974</td>
<td>Anonymous additions are attributed to $page.creatorName in text update notifications</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-7966</td>
<td>'add comment' and 'remove comment' notification do not link to the page that the comment was attached to</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-7912</td>
<td>Rich Text Editor: Bullets and text in a table cell</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-7893</td>
<td>Link to Plugin Repository is 'plugin.repository.link'</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-7683</td>
<td>Upgrade the bundled Blogging RPC plugin to version 1.1.1</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-7628</td>
<td>Rich Text Editor changes spacing around user-macros</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-7333</td>
<td>Blank line between bullets is lost</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF-6196</td>
<td>Copying a page with an image on it causes an error</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Release Notes 2.5.1

Confluence 2.5.1 is a maintenance release that resolves issues users may have encountered using Confluence 2.5 or earlier.

2.5.1 is a free upgrade for all customers who purchased their Confluence license after May 7th 2006.

Who should upgrade?

Confluence 2.5.1 is a bugfix release which resolves some significant issues in Confluence 2.5. Customers running older versions of Confluence should review the list of resolved issues below, and upgrade if this release fixes any problems with their current Confluence installation.

Customers running releases older than 2.5 and wishing to upgrade should upgrade directly to 2.5.1.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from another Confluence 2.2.x or a later version, you can find instructions here.

*We strongly recommend that you backup your *confluence.home* directory and database before upgrading!*

Upgrading from Confluence 2.1 and earlier

Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.

Changes in 2.5.1

2.5.1 resolves these issues:

| CONF-6057 | Users can manually restrict pages operations to custom groups of which they are not members | Resolved | Fixed |
| CONF-5783 | Markup with emoticon should have whitespace around it | Resolved | Fixed |
| CONF-5682 | User level permission on pages | Resolved | Fixed |
| CONF-5677 | Javascript exception NS_ERROR_NOT_AVAILABLE when changing editor tabs in Firefox | Resolved | Fixed |
| CONF-5334 | Hovering over the tabs in the editor view causes page to scroll on IE | Resolved | Fixed |
| CONF-5159 | Draft saving incorrectly encodes characters in Safari | Resolved | Fixed |
| CONF-5134 | Blogpost macro - order by created date only | Resolved | Fixed |
| CONF-5080 | Administrators cannot restrict View/Edit of a page to a group that the administrator does not belong | Resolved | Fixed |
| CONF-4986 | Pages with permissions are not being listed under 'Restricted Pages' in the space admin screens. | Resolved | Fixed |
| CONF-4969 | contentbylabel macro should support AND condition | Resolved | Fixed |
| CONF-4082 | ConversionException on dynamic tasklist after JDK version change | Resolved | Fixed |
| CONF-4005 | Page permission info is misleading | Resolved | Fixed |
| CONF-3908 | Can not set page permissions via Remote API | Resolved | Fixed |
| CONF-3759 | The login.action page should forward to the homepage when logged in. | Resolved | Fixed |
| CONF-3701 | Allow selection of multiple users and multiple groups (or both) for page level permissions | Resolved | Fixed |
Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

### JIRA Issues (26 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF</td>
<td>3345</td>
<td>Password Reminder will change password even though the email was not send</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3426</td>
<td>AND search doesn't match if part of match in title and part in body.</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>3453</td>
<td>(include) of a page in another space which has (blog-posts) renders error in blog list</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>6049</td>
<td>Export of Documentation Space to PDF and XML restoration are broken</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>6625</td>
<td>Time elapsed keeps counting after reindexing is complete</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7367</td>
<td>Only one livesearch macro functions per page</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7621</td>
<td>Activity Plugin macro notation doco needs to be created</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>7985</td>
<td>Rich Text Editor - Improper handling of Line Feed in {code} parts</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8202</td>
<td>Make 'Anonymous' reserve key word for username</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8238</td>
<td>Header anchors do not work in Firefox with non-ASCII characters</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8249</td>
<td>Rename 'Maximum Attachments per Form' setting to &quot;... per Upload&quot;</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8331</td>
<td>Wiki to HTML Conversion is Slow</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8334</td>
<td>Create space AJAX validation doesn't use context path</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8337</td>
<td>anchor link broken when moving a page across spaces</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8342</td>
<td>Leftnav, Plain Website and Tableless themes have broken link to view entire email thread</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8343</td>
<td>Poor quality of Thumbnails</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8380</td>
<td>Activity plugin report page includes unescaped angle brackets</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8392</td>
<td>Sort favourite spaces alphabetically in search drop-down</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8402</td>
<td>README.txt contains out of date information about support</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8411</td>
<td>listlabels macro behaves like recently-used-labels macro if no space key is provided</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8417</td>
<td>Missing plugin-info knocks Confluence over</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8423</td>
<td>NullPointerException when editing a group from Manage Groups</td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8424</td>
<td>Fix CONF-6733 for RPC method removeGroup()</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8431</td>
<td>ConfigurationException when attachments are uploaded from the &quot;insert link&quot; icon on rich-text editor</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF</td>
<td>8434</td>
<td>Exporting spaces with pages containing a ContentPermission may throw an exception</td>
<td>Resolved</td>
<td>Fixed</td>
</tr>
</tbody>
</table>
**Release Notes 2.5.2**

Confluence 2.5.2 is a maintenance release that resolves issues users may have encountered using Confluence 2.5 or earlier.

2.5.2 is a free upgrade for all customers who purchased their Confluence license after May 22nd 2006.

**Who should upgrade?**

Confluence 2.5.2 is a bugfix release which resolves some significant issues in Confluence 2.5. Customers running older versions of Confluence should review the list of resolved issues below, and upgrade if this release fixes any problems with their current Confluence installation.

Customers running releases older than 2.5 and wishing to upgrade should upgrade directly to 2.5.2.

**Upgrade Procedure**

Upgrading Confluence should be pretty easy. If you are upgrading from another Confluence 2.2.x or a later version, you can find instructions here.

*We strongly recommend that you backup your `confluence.home` directory and database before upgrading!*

**Upgrading from Confluence 2.1 and earlier**

Users upgrading directly from 2.1 or earlier should also read the [2.2 Release Notes](#) for caveats regarding the 2.1 -> 2.2 upgrade.

**Changes in 2.5.2**

2.5.2 resolves these issues:

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: (0); ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (18 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type Key Summary</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>CONF-5527 Redirect to parent page or space homepage after user deletes page</td>
</tr>
<tr>
<td>CONF-5907 When using the 'copy page' feature, page labels from the original page are not copied to the new page.</td>
</tr>
<tr>
<td>CONF-7924 Out-of-date Confluence upgrade fails with no useful explanation</td>
</tr>
<tr>
<td>CONF-8152 Link to results in other spaces given when searching all spaces</td>
</tr>
<tr>
<td>CONF-8170 A link within a comment breaks when the linked page is renamed</td>
</tr>
<tr>
<td>CONF-8297 Attachments macro doesn't list previous versions of attachments though &quot;old&quot; property is set to true</td>
</tr>
<tr>
<td>CONF-8332 Update 'latest' javadoc symlink</td>
</tr>
<tr>
<td>CONF-8407 &quot;Restore backup&quot; does not detect invalid ZIP files, exceptions are rendered</td>
</tr>
<tr>
<td>CONF-8450 On the user management page, if you click &quot;Search&quot; without entering results you get a java exception</td>
</tr>
<tr>
<td>CONF-8451 Duplicate javamail / mail JARs</td>
</tr>
<tr>
<td>CONF-8454 Hyperlinks containing round brackets are broken</td>
</tr>
</tbody>
</table>
Links produced by the \{index\} macro aren’t correct when a space is exported to HTML

Members of groups in Group Management are printed in ugly technical way

Daily backup files not overwritten if daily backup file name is static

Remote editing causes disappearance and appearance of the content of the excerpt

A small typo on the mailto link on the Administration view user profile.

Preformatted text from the Rich Text Editor removes link properties

Rich-Text-Editor failed to load for some users

Release Notes 2.5.3

Confluence 2.5.3 is a maintenance release that resolves issues users may have encountered using Confluence 2.5 or earlier.

2.5.3 is a free upgrade for all customers who purchased their Confluence license after May 30th 2006.

Who should upgrade?

Confluence 2.5.3 is a bugfix release which resolves some significant issues in Confluence 2.5. Customers running older versions of Confluence should review the list of resolved issues below, and upgrade if this release fixes any problems with their current Confluence installation.

In particular, 2.5.3 fixes a problem which could cause indexing to fail when extracting text from unprintable encrypted PDF files.

Customers running releases older than 2.5 and wishing to upgrade should upgrade directly to 2.5.3.

Shared Mode Removed

This release removes the 'Shared Mode' setting from General Configuration. If you have shared mode enabled you should disable it before upgrading.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from another Confluence 2.2.x or a later version, you can find instructions here.

We strongly recommend that you backup your confluence.home directory and database before upgrading!

Upgrading from Confluence 2.1 and earlier

Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.

Changes in 2.5.3

2.5.3 resolves these issues:

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: [0]; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (21 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>CONF-3892</td>
</tr>
<tr>
<td>CONF-3913</td>
</tr>
<tr>
<td>CONF-4303</td>
</tr>
<tr>
<td>CONF-5954</td>
</tr>
</tbody>
</table>
Release Notes 2.5.4

Confluence 2.5.4 is a maintenance release that resolves issues users may have encountered using Confluence 2.5 or earlier.

2.5.4 is a free upgrade for all customers who purchased their Confluence license after June 13th 2006.

Who should upgrade?

Confluence 2.5.4 is a bugfix release which resolves some significant issues in Confluence 2.5. Customers running older versions of Confluence should review the list of resolved issues below, and upgrade if this release fixes any problems with their current Confluence installation.

Customers running releases older than 2.5 and wishing to upgrade should upgrade directly to 2.5.4.

Upgrade Procedure

Upgrading Confluence should be pretty easy. If you are upgrading from another Confluence 2.2.x or a later version, you can find instructions here.

We strongly recommend that you backup your confluence.home directory and database before upgrading!

Upgrading from Confluence 2.1 and earlier

Users upgrading directly from 2.1 or earlier should also read the 2.2 Release Notes for caveats regarding the 2.1 -> 2.2 upgrade.
Changes in 2.5.4

2.5.4 resolves these issues:

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN: Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (26 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-4743</td>
<td>CONF-4743</td>
<td>HTML space export does not use either global or space layout for index page</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-5931</td>
<td>CONF-5931</td>
<td>Fix Confluence for Turkish locale</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6250</td>
<td>CONF-6250</td>
<td>Access to array items in code macro is recognized as undefined page</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6284</td>
<td>CONF-6284</td>
<td>Pages served over HTTPS that embed Flash movies display a security warning on IE</td>
<td>Closed</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-6745</td>
<td>CONF-6745</td>
<td>JavaScript error on Create Page with opened &quot;Labels&quot; section</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7643</td>
<td>CONF-7643</td>
<td>Searching for pages with a certain label in ONE space returns the pages related to the label in ALL spaces (when clicking on &quot;Next&gt;&gt;&quot; link on first result page)</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7732</td>
<td>CONF-7732</td>
<td>Shortcuts to with certain chars in them do not resolve correctly</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7739</td>
<td>CONF-7739</td>
<td>Some content migrated from 2.0 to 2.3 fails to render (due to:- system error: java.lang.String java.lang.ClassCastException: java.lang.String)</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7864</td>
<td>CONF-7864</td>
<td>Remove trailing and prefacing empty character in SPACE name</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7892</td>
<td>CONF-7892</td>
<td>Syntax error in usage-stats.vm in Confluence Usage Stats plugin</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-7970</td>
<td>CONF-7970</td>
<td>Labels that are no longer associated with any content should not be displayed</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8112</td>
<td>CONF-8112</td>
<td>slashes in paths for @shortcuts links are traslated into %2F</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8176</td>
<td>CONF-8176</td>
<td>Updates to the Usage-Tracking-Plugin do not appear in the Repository Client</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8190</td>
<td>CONF-8190</td>
<td>Size parameter not trimmed in {create-space-button} macro</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8243</td>
<td>CONF-8243</td>
<td>Global Activity Title not rendered</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8395</td>
<td>CONF-8395</td>
<td>Bundle WebDAV 1.1 plugin</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8459</td>
<td>CONF-8459</td>
<td>Export Layouts don't work for Spaces, only for Site</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8554</td>
<td>CONF-8554</td>
<td>Misleading error message when trying to edit a non-existing users group (via direct URL-access)</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8586</td>
<td>CONF-8586</td>
<td>Creating a page on an not authorized space</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8625</td>
<td>CONF-8625</td>
<td>Shortcut links white spaces are changed to + for file:// links</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8630</td>
<td>CONF-8630</td>
<td>errors.jsp should return HTTP 500 Server Error instead of HTTP 200 OK when errors are present</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8634</td>
<td>CONF-8634</td>
<td>When 'AND' is used to search, the label 'and' is matched</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>CONF-8658</td>
<td>CONF-8658</td>
<td>In rare cases new users don't get added to the proper group and therefore can't use</td>
<td>Resolved</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>
**Release Notes 2.5.5**

Confluence 2.5.5 is a recommended upgrade that resolves issues you may have encountered in Confluence 2.5.4 or earlier. Confluence 2.5.5 resolves two security bugs, related to space permissions and invalid characters in space names and keys.

As such this release is a recommended upgrade for all customers.

Confluence 2.5.5 is a free upgrade for all customers who purchased their Confluence license or maintenance renewal after July 26th 2006.

**Upgrading to Confluence 2.5.5**

Upgrading Confluence should be fairly straightforward. You can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

**Changes in 2.5.5**

Patch for security issues

Confluence 2.5.5 resolves two security bugs, related to:

- space permissions
- invalid characters in space names and keys.

For more information, please see the security advisory.

**Server ID**

Starting with release 2.5.5, Confluence will generate a server ID for you. Server ID has replaced License ID on the License Details page. You will find the server ID useful when contacting Atlassian support.

Server ID:

- is generated when you install Confluence for the first time
- exists for the life of the Confluence instance
- survives an upgrade
- is held in the database
- is not bound to a specific licence
- is the same for all servers in a cluster.

**Translations for rich text editor now compatible with Confluence language pack plugins**

Thank you to everyone who voted for this popular fix.

The rich text editor in Confluence shows text in tooltips, warnings and other messages. If you are using Confluence in a language other than English, you will want to translate these messages as well as the standard Confluence text.

With Confluence 2.5.5:

- The translations for the rich text editor can be part of a Confluence language pack plugin.
- If your language pack does not contain translations for the rich text editor, the text will show in English. (Before 2.5.5, it showed the 'key' value rather than English.)
- Partial translations of rich text editor messages are already included in the professional French and German language packs. Full translation is under construction.

This makes things much simpler!

You will find more information here:

- Overview of language pack translations
- Technical overview of language pack plugins
- Specific information on translating the rich text editor

**Other fixes in 2.5.5**

2.5.5 resolves these issues:

<table>
<thead>
<tr>
<th>Bug Number</th>
<th>Description</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-8665</td>
<td>Exporting a space to XML incorrectly includes comments, even when 'Include comments' is deselected.</td>
<td>Resolved, Fixed</td>
</tr>
<tr>
<td>CONF-8668</td>
<td>JavaScript error ('null' is null or not an object) when adding (saving) a new page</td>
<td>Resolved, Fixed</td>
</tr>
<tr>
<td>CONF-8682</td>
<td>&quot;Not Permitted&quot; error when I try to use the time sheet template</td>
<td>Resolved, Fixed</td>
</tr>
</tbody>
</table>
Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: (0); ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (19 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>CONF-8992</td>
</tr>
<tr>
<td>CONF-8917</td>
</tr>
<tr>
<td>CONF-8916</td>
</tr>
<tr>
<td>CONF-8877</td>
</tr>
<tr>
<td>CONF-8868</td>
</tr>
<tr>
<td>CONF-8864</td>
</tr>
<tr>
<td>CONF-8860</td>
</tr>
<tr>
<td>CONF-8855</td>
</tr>
<tr>
<td>CONF-8851</td>
</tr>
<tr>
<td>CONF-8846</td>
</tr>
<tr>
<td>CONF-8830</td>
</tr>
<tr>
<td>CONF-8770</td>
</tr>
<tr>
<td>CONF-8703</td>
</tr>
<tr>
<td>CONF-8123</td>
</tr>
<tr>
<td>CONF-8092</td>
</tr>
<tr>
<td>CONF-6987</td>
</tr>
<tr>
<td>CONF-6167</td>
</tr>
</tbody>
</table>
Upgrade Guide 2.5.5

Who should upgrade?

Confluence 2.5.5 is a recommended upgrade that resolves issues you may have encountered in Confluence 2.5.4 or earlier. Confluence 2.5.5 resolves two security bugs, related to space permissions and invalid characters in space names and keys.

As such this release is a recommended upgrade for all customers.

Confluence 2.5.5 is a free upgrade for all customers who purchased their Confluence license or maintenance renewal after July 26th 2006.

If you are running a release older than 2.5 and you want to upgrade, you should upgrade directly to 2.5.5. Refer to the upgrade procedure below.

Upgrade Procedure

Upgrading Confluence should be pretty easy. We strongly recommend that you backup your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 2.2.x or a later version, you can find instructions here.

If you are upgrading directly from 2.1 or earlier, you should also read the 2.2 Release Notes for warnings about the 2.1 -> 2.2 upgrade.

Release Notes 2.5.6

Confluence 2.5.6 is a recommended upgrade that resolves a number of security bugs and other issues you may have encountered in Confluence 2.5.5 or earlier.

As such this release is a recommended upgrade for all customers.

Confluence 2.5.6 can be downloaded from http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa, and is a free upgrade for all customers who purchased their Confluence license or maintenance renewal after August 8th 2006.

Upgrading to Confluence 2.5.6

Upgrading Confluence should be fairly straightforward. You can find instructions here. We strongly recommend that you backup your confluence.home directory and database before upgrading!

Changes in 2.5.6

- For details about the security fixes, please see the security advisory.
- CONF-8944 resolves a Crowd integration issue for Confluence 2.5.6 and later.
- The Crowd integration fix will be ported to previous Confluence versions in the near future - please see CONF-9122.

Here's a complete list of the bug fixes in Confluence 2.5.6:

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (19 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>CONF-9073</td>
</tr>
<tr>
<td>CONF-9067</td>
</tr>
<tr>
<td>CONF-9060</td>
</tr>
<tr>
<td>CONF-9000</td>
</tr>
<tr>
<td>CONF-8993</td>
</tr>
<tr>
<td>CONF-8989</td>
</tr>
<tr>
<td>CONF-8980</td>
</tr>
<tr>
<td>CONF-8979</td>
</tr>
</tbody>
</table>
### Upgrade Guide 2.5.6

**Who should upgrade?**

Confluence 2.5.6 is a recommended upgrade that resolves a number of security bugs and other issues you may have encountered in Confluence 2.5.5 or earlier.

As such this release is a recommended upgrade for all customers.

Confluence 2.5.6 can be downloaded from [http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa](http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa), and is a free upgrade for all customers who purchased their Confluence license or maintenance renewal after August 8th 2006.

If you are running a release older than 2.5 and you want to upgrade, you should upgrade directly to 2.5.6. Refer to the upgrade procedure below.

### Upgrade Procedure

Upgrading Confluence should be fairly straightforward. *We strongly recommend that you backup your confluence.home directory and database before upgrading!*

If you are upgrading from Confluence 2.2.x or a later version, please see the [Confluence Upgrade Instructions](http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa).

If you are upgrading directly from 2.1 or earlier, you should also read the [2.2 Release Notes](http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa) for warnings about the 2.1 -> 2.2 upgrade.

### Release Notes 2.5.7

Confluence 2.5.7 is a recommended upgrade that resolves two issues you may have encountered in Confluence 2.5.6:

- Indexing errors claiming 'too many open files', caused by duplicate libraries in the Confluence web application.
- Caching should be enabled by default for the LDAP configuration in `atlassian-user.xml`.

Confluence 2.5.7 can be downloaded from [http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa](http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa), and is a free upgrade for all customers who purchased their Confluence license or maintenance renewal after 30 August 2006.

If you don’t wish to upgrade to 2.5.7, but do want a fix for issue **CONF-9251** ("Too many open files" error during index operations), you can manually remove the duplicate libraries shipped in the Confluence web application. Please follow the instructions on the JIRA issue.

### Upgrading to Confluence 2.5.7

Upgrading Confluence should be fairly straightforward. You can find instructions here. *We strongly recommend that you backup your confluence.home directory and database before upgrading!*
Changes in 2.5.7

Here's a complete list of the bug fixes in Confluence 2.5.7:

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (3 issues)</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-9303 Caching is not enabled by default for the hibernate repository</td>
<td>![ ]</td>
<td><img src="" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9251 &quot;Too many open files&quot; error during index operations</td>
<td>![ ]</td>
<td><img src="" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9249 Duplicate dependencies in WEB-INF/lib/</td>
<td>![ ]</td>
<td><img src="" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
</tbody>
</table>

Upgrade Guide 2.5.7

Who should upgrade?

Confluence 2.5.7 is a recommended upgrade that resolves two issues you may have encountered in Confluence 2.5.6:

- Indexing errors claiming 'too many open files', caused by duplicate libraries in the Confluence web application.
- Caching should be enabled by default for the LDAP configuration in atlassian-user.xml.

Confluence 2.5.7 can be downloaded from [http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa](http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa), and is a free upgrade for all customers who purchased their Confluence license or maintenance renewal after 30 August 2006.

If you are running a release older than 2.5 and you want to upgrade, you should upgrade directly to 2.5.7. Refer to the upgrade procedure below.

Upgrade Procedure

Upgrading Confluence should be fairly straightforward. *We strongly recommend that you backup your confluence.home directory and database before upgrading!*

If you are upgrading from Confluence 2.2.x or a later version, please use the [Confluence Upgrade Instructions](http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa).

If you are upgrading directly from 2.1 or earlier, you should also read the [2.2 Release Notes](http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa) for warnings about the 2.1 -> 2.2 upgrade.

Release Notes 2.5.8

Confluence 2.5.8 is a **highly recommended** upgrade that resolves some issues in the user management framework and a memory leak in Confluence 2.5.x.

You can download Confluence 2.5.8 from [http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa](http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa). This upgrade is free for all customers with active Confluence software maintenance as at 3 October 2007.

This release has been made available after the Confluence 2.6 release date. This 2.5.8 version is for customers who want to fix the issues listed below, but do not want all the new functionality and theme changes in Confluence 2.6 yet.

Upgrading to Confluence 2.5.8

Upgrading Confluence should be fairly straightforward. You can find instructions [here](http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa). *We strongly recommend that you backup your confluence.home directory and database before upgrading!*

Changes in 2.5.8

Here's a complete list of the bug fixes in Confluence 2.5.8:

Errors were reported by the JIRA trusted connection.

- APP_UNKNOWN; Unknown Application: {0}; ["confluence:4557196"]

<table>
<thead>
<tr>
<th>JIRA Issues (5 issues)</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONF-9521 TinyMceServlet has a memory leak</td>
<td>![ ]</td>
<td><img src="" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
<tr>
<td>CONF-9434 Enabling Caching for Hibernate Repository causes</td>
<td>![ ]</td>
<td><img src="" alt="Resolved" /></td>
<td>Fixed</td>
</tr>
</tbody>
</table>
Upgrade Guide 2.5.8

Who should upgrade?

Confluence 2.5.8 is a highly recommended upgrade that resolves some issues in the user management framework and a memory leak in Confluence 2.5.x.

You can download Confluence 2.5.8 from http://www.atlassian.com/software/confluence/ConfluenceDownloadCenter.jspa. This upgrade is free for all customers with active Confluence software maintenance as at 3 October 2007.

If you are running a release older than 2.5 and you want to upgrade, you should upgrade directly to 2.5.8, referring to the upgrade procedure below.

Upgrade procedure

Upgrading Confluence should be fairly straightforward. We strongly recommend that you back up your confluence.home directory and database before upgrading!

If you are upgrading from Confluence 2.2.x or a later version, please use the Confluence Upgrade Instructions.

If you are upgrading directly from 2.1 or earlier, you should also read the 2.2 Release Notes for warnings about the 2.1 -> 2.2 upgrade.

Release Notes_1.0.1

Confluence 1.0.1

Over the course of the last month of supporting Confluence 1.0, there are a number of patches that we have been distributing to fix specific problems our users have encountered. Confluence 1.0.1 is a maintenance release into which all these patches have been integrated.

Who Should Upgrade?

All the issues that were resolved for this release are listed below. We have not snuck in any other changes: what you see here in the release notes is precisely what you will get. If you find something on the list that directly affects you, or that you feel justifies the effort of an upgrade, then do so. Otherwise, feel free to stick with 1.0.

Upgrade Procedure

If You Have Customised osuser.xml

If you have customised Confluence’s user-management, for example to integrate it with LDAP or JIRA, you will have to integrate your changes to account for the caching OSUser providers we introduced in Confluence 1.0.1. See this document for more details: [Confluence Caching OSUser Provider]. Updated instructions for integrating with JIRA user management are here: Delegate user management to use JIRA logins

Otherwise

To avoid the possibility of data-loss, you should back up your ConfluenceHome directory and your database before upgrading, and perform a full backup from within the application.

Changes in 1.0.1

See also Issues Resolved for 1.0.1

Direct Attachment Links

In response to a loud demand from users, links to attachments using the [*attachment.jpg] syntax will download the attachment file directly, instead of linking to an anchor in the destination page.

Sybase ASE Support

Confluence 1.0.1 resolves the following problems that were causing Confluence not to work with Sybase ASE 12.5.1:
ORDER-BY mappings failing on Sybase (CONF-1021)
Can't add users under Sybase (CONF-1022)
Weird datatype error under Sybase (CONF-1024)
Sybase doesn't like complicated distinct selects (404 page fails) (CONF-1025)
Backup import fails under Sybase (CONF-1063)

These bug-fixes may also improve Confluence's compatibility with other untested databases. They will not, however, have any effect on Confluence's operation against PostgreSQL, MySQL or HSQL.

Microsoft SQL Server Dialect in Setup Page

The Microsoft SQL Server database dialect was missing from the database setup page. It has now been added to the list. Confluence has not yet been tested on Microsoft SQL Server, and the usefulness of this option is not yet guaranteed. However, since the Sybase issues above are now resolved and SQL Server belongs to the same family as Sybase, it would be well worth a try.

JIRA User Provider Caching

Users who were linking their user management to JIRA's using the supplied provider were experiencing significant performance problems as a result. 1.0.1 introduces caching to the user provider, which should speed up these installations significantly.

Global Reports Visibility

Under Confluence 1.0, the global "undefined pages" and "orphaned pages" reports did not properly filter out pages that the user could not see. The user could not see the content of any page they did not have access to, but they could learn of the existence of (and names of) pages and spaces they were not permitted to see. This bug is fixed in 1.0.1

Locale-Independent Dates in Backup/Restore

In Confluence 1.0, dates were written into backup files using a localised representation of the month. As such, if you exported Confluence data from a server in one locale it might not import successfully into a server with a different Locale setting. Confluence 1.0.1 still recognises the 1.0 export format, but its own exports will write out dates in a locale-independent format.

As noted above, this means that data exported from Confluence 1.0.1 can not be imported successfully into Confluence 1.0.

Fix Browser Crash on Viewing Some Templates

Previously, if you created a template containing no variables, then anyone attempting to preview or use that template would have their browser hang in an infinite Javascript loop. Confluence 1.0.1 fixes this bug.

Typo Fixed on User Group Editing Page

A single-character change from "privilage" to "privilege".

Strangely unviewable Release Notes 2.6

The Atlassian Confluence team is delighted to present Confluence 2.6. We kept you waiting a bit longer than usual for this one, but now it's here and it's packed full of goodies and looks cleaner and fresher than ever before. Read on, to find that piece of functionality you've been longing for.

Confluence 2.6 is the eleventh major release of Confluence. This release is a free upgrade for any customers who purchased their Confluence license or maintenance renewal after August 22nd 2006.

• Many thanks for your issues and votes. They help us keep improving our products.
• Here's a full list of issues resolved in 2.6.

Upgrading to Confluence 2.6

Upgrading Confluence should be fairly straightforward. Please follow the instructions here. We strongly recommend that you back up your confluence.home directory and database before upgrading!

2.6 highlights

New look and feel

• Default font now Arial instead of Verdana.
• Fresh, clean look and feel - these release notes are an example of the new style.
• If you prefer the original Confluence look and feel, select the Confluence Classic Theme when creating a space.
2 Profile picture shows on comments

- In the new themes (Confluence Default and Clickr)

3 Personalised 'Recently Updated' section on Dashboard

- Changes are grouped by person.
- Includes profile picture and a summary of the change.

4 Space description on Dashboard

- List of spaces on the Dashboard now includes a short description of the space.
Labels included in templates

- Include labels when adding a page template.
- New pages based on the template will automatically include the labels.
- Read the documentation.

Default content for home pages

- Confluence site administrators can define default content for a space.
- Home page for newly-added spaces will include the default content.
- Read the documentation.
Social Bookmarking plugin now bundled with Confluence

- Use Confluence to share bookmarks with your team.
- Plugin will be enabled by default.
- You can create a bookmark for any space in which you have 'create page' permission.
- To view your bookmarks, go to the ‘Bookmarks’ tab under ‘Browse Space’.
- To add a bookmark, click the ‘Add Bookmark’ option.
- Drag the bookmarklet from the ‘Bookmarks’ tab onto your browser toolbar to create bookmarks anytime.
- Use the {bookmarks} macro to display a list of bookmarks anywhere in Confluence.
- Subscribe to an RSS feed for your bookmarks.
- Read the [documentation]
WebDAV plugin now bundled with Confluence

- The WebDAV 1.1 plugin is now bundled with Confluence.
- Plugin will be disabled by default.
- Use Confluence like a network drive:
  - Access Confluence content via a WebDAV client, such as 'My Network Places' in Microsoft Windows.
  - Read and write to spaces, pages and attachments in Confluence, provided that you have permission.
  - You will be asked to log in, and the standard Confluence permissions apply.
- To configure the WebDAV permissions and other settings, site administrators can choose the WebDAV Configuration option on the Administration Console.
- Read the documentation.

TaskList plugin now bundled with Confluence

- New and improved version of Dynamic Tasklist - you can:
  - Re-order tasks reliably.
  - Include some wiki markup (links, simple formatting) in the task names.
  - Edit task names.
  - Drag a task from one list to another.
  - Assign priorities to tasks.
  - Sort tasks.
  - Change task lists in edit mode - the task lists are now stored in the page.
- Every change saves a version of the page - no lost information.
- Easy upgrade: The new Dynamic Tasklist plugin will find any task lists in the previous format and automatically upgrade them to the new format.
- Read the documentation.

Back-dating and renaming news items

- Set the date of a news item to earlier than today, upon creation.
- Rename a news item at any time.

Official support of MySQL 5.0

- MySQL 5.0 is supported when used with Confluence 2.5 and above.

PDF export of image-generating macros

- Macro plugins which produce images now export to PDF, .doc and .html formats.

The Confluence 2.6 team

Development
Paul Curren
Upgrade Notes Overview

All upgrades between Confluence versions have a lot in common. Please refer to our general information about upgrading Confluence first.

Typically, each major release of Confluence comes with some specific recommendations for upgrading from the previous major version. If you plan to upgrade and skip a few Confluence versions, you must read the upgrade notes for all major versions between your current version and the latest version, to make sure you do not miss something important.

For example:
If you plan to upgrade from Confluence 2.8 to Confluence 3.0, read the upgrade notes for Confluence 2.9 and Confluence 2.10, as well as those for Confluence 3.0.

Also, we strongly recommend that you read the upgrade notes for any minor releases indicated in the list below, since they contain important information that will affect your Confluence upgrade.

Below are links to the upgrade notes for the latest major releases, including any important upgrade notes for minor releases:

- Confluence 3.0.1 Upgrade Notes
- Confluence 3.0 Upgrade Notes
- Confluence 2.10 Upgrade Notes
- Confluence 2.9 Upgrade Notes
- Confluence 2.8 Upgrade Notes
- Confluence 2.7 Upgrade Notes
- Confluence 2.6 Upgrade Notes

You will find the upgrade notes attached to the release notes for the relevant version.

**RELATED TOPICS**

Confluence Release Summary
Release Notes

**Confluence Setup Guide**

Before running the Confluence Setup Wizard described below, please follow the instructions on installing Confluence.

When you access Confluence in your web browser for the first time, you will see the Confluence Setup Wizard. This is a series of screens which will prompt you to supply some default values for your Confluence site. It will also offer some more advanced options for setting up data connections and restoring data from a previous installation.

On this page:

- 1. Start the Setup Wizard
- 2. Enter your License Key
- 3. Choose your Installation Type
- 4. Custom Installation: Database Configuration
- 5. Custom Installation: External Database
- 6. Custom Installation: Load Content
- 7. Custom Installation: Restore Data from Backup
- 8. Enter Details of your Confluence System Administrator
- 9. Setup is Complete
1. Start the Setup Wizard

1. If Confluence is not already running, i.e., if you did not configure it to start automatically during installation, you need to start it now:
   - If you are running Confluence Standalone on Windows, click ‘Start’..., ‘Programs’..., ‘Atlassian Confluence’..., ‘Start in Console’.
   - If you are running Confluence Standalone on a MAC, click ‘Applications’..., ‘Atlassian Confluence’.
   - Or run the start-up script found in the bin folder of your Installation directory:
     - startup.bat for Windows.
     - startup.sh for Unix-based systems.
   - Mac OS X users will be prompted to choose an application. Choose the Terminal application in the Utilities folder.

2. Go to the following web address in your web browser: http://localhost:8080
   - The above web address uses port ‘8080’. If you chose a different port during installation, change ‘8080’ to the number you chose.
   - You should see the Licensing screen described below.
   - If an error message appears, first check that you’re using the port which you specified during installation. Then check the Installation FAQ.

2. Enter your License Key

   ![Screenshot: Licensing and Installation Type]

   **Confluence Setup Wizard**

   Confluence needs some information before it is fully installed. If at any stage of the installation you need more information, check out the online setup guide. If you get stuck, you can email us, or ask a question in the Confluence forum.

   **Enter License**
   
   Please enter your Confluence license key below - either commercial or evaluation. You can generate an evaluation license instantly online.

   **Choose Installation Type**
   
   There are two ways to install Confluence. If you are in any doubt as to which you should choose, you should select the standard installation.

   **Standard Installation**
   
   Install Confluence with default settings and an embedded database. This is strongly recommended for anyone evaluating or demonstrating Confluence, as it will get you up and running as quickly as possible.

   **Custom Installation**
   
   Perform a custom setup. Select this option if you want to configure Confluence with an external database, or initialise the server with your own data.

   **Hint:** The above image and all the images on this page are screenshots. Clicking an image will not configure Confluence.

1. Find your Confluence license key:
   - If you don’t have your license key handy, you can retrieve your existing key.
   - If you do not already have a Confluence license, you can obtain one now:
     - Copy your ‘Server ID’ from the Setup Wizard's Licensing screen, shown on the screenshot above.
Confluence 3.0 Documentation

- Obtain a trial, free or commercial licence.
- Type or paste your license key into the ‘License Key’ field, shown on the screenshot above.

3. Choose your Installation Type

Refer to the screenshot above. In this step, you will choose whether you want a standard or a custom installation.

**Option 1: Standard Installation** — Set up Confluence with the embedded HSQLDB database and default settings. This option will also install a ‘Demonstration Space’ with some example content to get you working with Confluence as quickly and easily as possible. You may upgrade to another type of database later on.

**Hint: Who should choose this option?**
- Choose the standard installation if you are evaluating Confluence or if you are new to Confluence.
- This option is not recommended for production instances of Confluence.

**For production use, we strongly recommend that you connect to an external database rather than using the embedded database. The standard installation is therefore not suitable for production installations.**

Next, you will be asked for details of your system administrator. Go to step 8 below. Yes, you really can skip all the steps between.

**Option 2: Custom Installation** — Customise your Confluence instance to use your own database and your own data.

**Hint: What options does the custom installation offer?**
- Connect Confluence to an external database. *Recommended for production instances of Confluence.*
- Restore data from an existing Confluence database.
- Install Confluence without the demonstration content.

4. Custom Installation: Database Configuration

**Screenshot: Database Configuration**

**Choose a Database Configuration**

Choose where Confluence should store its data

**Embedded Database**

The embedded database will allow Confluence to operate without an external database.

We strongly recommend against using this on a production server. This is recommended for evaluating and demonstrating Confluence only. Production systems should consider an external database for improved scalability and reliability. A guide on how to migrate your data can be found [here](#).

**External Database**

If you wish to store your Confluence data in an external database, choose it from the list of supported databases. This is recommended for production systems.

If your database is not listed in the menu, you may configure an “Unsupported Database”, but be aware that Confluence may not be fully tested

The above screen appears if you have chosen a custom installation of Confluence. You can choose to use the embedded database supplied with your Confluence installation, or to connect to an external database.

**Option 1: Embedded Database** — If you select this option, Confluence will use an embedded HSQLDB database. You should only select this option if you are evaluating Confluence, or for demonstration purposes.

**✓** You can migrate to another database later on, if you wish.
The embedded database is not recommended for production use.

Option 2: External Database — If you wish Confluence to use an external database, select your database type from the database dropdown list and then click the 'External Database' button.

Read more information about supported databases.

For production deployments of Confluence, we recommend that you use an external database to ensure your data is kept safe and consistent.

5. Custom Installation: External Database

Before you Start

- Character encoding:
  - We strongly recommend that character encoding is consistent across your database, application server and web application, and that you use UTF-8 encoding.
  - Before setting up your database, please read about configuring character encoding.
- Database name: When creating a new external database, give it the name 'confluence'.

You can choose to configure your database via a standard JDBC connection or via a server-managed datasource connection. Choose one of the two options below.

Option 1: Standard Database Connection — This uses a standard JDBC database connection. Connection pooling is handled within Confluence.

Screenshot: Standard (JDBC) Connection

Setup Standard Database

Supply the following information:

- Driver Class Name — The Java class name for the appropriate database driver. This will depend on the JDBC driver, and will be found in the documentation for your database. You will also need to put the appropriate database driver 'jar' file in the server's classpath. For the standalone version, this means copying the jar file into the <confluence-install>/lib directory.
- Database URL — The JDBC URL for the database you will be connecting to. This will depend on the JDBC driver, and will be found in the documentation for your database.
- User Name — A valid username which Confluence will use to access your database.
- Password — The password corresponding to the above username.

You will also need to know:

- The size of the connection pool Confluence should maintain. If in doubt, just go with the default provided.
- What kind of database you're connecting to, so you can tell Confluence which dialect it needs to use.

Option 2: Datasource Connection — This asks the Java application server for a database connection. You will need to have configured a datasource into your application server.

Screenshot: Datasource Connection
Setup Datasource Connection

If "java:comp/env/jdbc/DatasourceName" doesn't work, try "jdbc/DatasourceName" (or vice versa)

Datasource Name: [java:comp/env/jdbc/]

Supply the following information:

- **Datasource Name** — The JNDI name of the datasource, as configured in the application server.
  Note: Some servers will have JNDI names like jdbc/datasourcename; others will be of the form java:comp/env/jdbc/datasourcename. Consult your application-server documentation.

You will also need to know:

- What kind of database you're connecting to, so you can tell Confluence which dialect it needs to use.

6. Custom Installation: Load Content

Select one of the following options:

- **Example Site** — This option will load Confluence's 'Demonstration Space'. Select this if you are using Confluence for the first time, or if you want the Demonstration Space for your other Confluence users. The Demonstration Space helps to familiarise you with Confluence and what it can do for you. You can then continue using your Confluence deployment as normal — there's no need to reinstall later.
- **Empty Site** — Select this option if you are already familiar with Confluence. You will need to create at least one space before you can start adding content to the site.
- **Restore from Backup** — Select this option if you want to use Confluence data from a previous installation.

7. Custom Installation: Restore Data from Backup

Select one of the following options:

- **Example Site** — This option will load Confluence's 'Demonstration Space'. Select this if you are using Confluence for the first time, or if you want the Demonstration Space for your other Confluence users. The Demonstration Space helps to familiarise you with Confluence and what it can do for you. You can then continue using your Confluence deployment as normal — there's no need to reinstall later.
- **Empty Site** — Select this option if you are already familiar with Confluence. You will need to create at least one space before you can start adding content to the site.
- **Restore from Backup** — Select this option if you want to use Confluence data from a previous installation.
This option allows you to reload your data from an existing Confluence installation into your new Confluence site during the initial setup procedure. You can choose to upload data from a zipped backup file, or to restore from a backup file on your file system.

**Option 1: Upload a zipped backup to Confluence** — This option will load the data from a zipped backup file.

To create a backup file from your existing version of Confluence, go to the 'Backup & Restore Administration Console' section of your Administration Console.

To restore from a zipped backup:

1. Browse for the relevant daily backup file or a file you have created via a manual backup.
2. Check 'Build Index' to build the data index, used for the search.
3. Click the 'Upload and Restore' button.

**Option 2: Restore a backup from the filesystem** — This option is recommended if you have a very large daily backup file (greater than 100MB), or a daily backup file that is already on the server and doesn’t require uploading.

1. Copy the backup file into the `restore` directory inside your confluence `Home directory` and then refresh the page. You should now see your backup file appear on the 'Restore Data' screen (pictured above), in the box beneath the heading 'Restore a backup from the filesystem'.
2. Check 'Build Index' to build the data index, used for the search.
3. Click the 'Restore' button.

When the restore process has finished, you are ready to log in to Confluence. The system administrator account and all other information has been transferred from your previous Confluence installation.

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8. Enter Details of your Confluence System Administrator

_Screenshot: System Administrator_
1. Enter the following information to set up your system administrator's user account:
   - **Username** — The username under which the system administrator will log in to Confluence, e.g. 'jsmith'.
   - **Password** — The password which the system administrator will use to log in.
   - **Confirm** — Enter the same password again.
   - **Name** — The system administrator's full name, e.g. 'John Smith'.
   - **Email** — The system administrator's email address, e.g. 'jsmith@example.com'.
2. Click 'Next'.

9. Setup is Complete

Congratulations! You have installed and set up Confluence. Click the 'Start using Confluence now' link to open the 'Demonstration Space' in your Confluence wiki. This space contains some sample content and ideas, to help you get started quickly.

RELATED TOPICS

Using the Confluence Dashboard
Starting Confluence Automatically on System Startup
Documentation Home

External Database

Custom Installation - Connecting to an External Database

This page is part of the Confluence Setup Guide.

Before you Start

- **Character encoding:**
  - We strongly recommend that character encoding is consistent across your database, application server and web application, and that you use UTF-8 encoding.
  - Before setting up your database, please read about configuring character encoding.
- **Database name:** When creating a new external database, give it the name 'confluence'.

You can choose to configure your database via a standard JDBC connection or via a server-managed datasource connection. Choose one of
the two options below.

**Option 1: Standard Database Connection** — This uses a standard JDBC database connection. Connection pooling is handled within Confluence.

**Screenshot: Standard (JDBC) Connection**

**Setup Standard Database**

Supply the following information:

- **Driver Class Name** — The Java class name for the appropriate database driver. This will depend on the JDBC driver, and will be found in the documentation for your database. You will also need to put the appropriate database driver 'jar' file in the server's classpath. For the standalone version, this means copying the jar file into the `<confluence-install>/lib` directory.
- **Database URL** — The JDBC URL for the database you will be connecting to. This will depend on the JDBC driver, and will be found in the documentation for your database.
- **User Name** — A valid username which Confluence will use to access your database.
- **Password** — The password corresponding to the above username.

You will also need to know:

- The size of the connection pool Confluence should maintain. If in doubt, just go with the default provided.
- What kind of database you're connecting to, so you can tell Confluence which dialect it needs to use.

**Option 2: Datasource Connection** — This asks the Java application server for a database connection. You will need to have configured a datasource into your application server.

**Screenshot: Datasource Connection**

**Setup Datasource Connection**

Supply the following information:

- **Datasource Name** — The JNDI name of the datasource, as configured in the application server. Note: Some servers will have JNDI names like `jdbc/datasourcename`; others will be of the form `java:comp/env/jdbc/datasourcename`. Consult your application-server documentation.

You will also need to know:

- What kind of database you're connecting to, so you can tell Confluence which dialect it needs to use.

**Next Step**

Load content for the site

**RELATED TOPICS**

- Database Configuration
- Confluence Setup Guide
- Confluence User Guide
- Confluence Documentation Home

**Load Content for the Site**

This page is part of the Confluence Setup Guide.

**Screenshot: Load Content**
Select one of the following options:

- **Example Site** — This option will load Confluence’s ‘Demonstration Space’. Select this if you are using Confluence for the first time, or if you want the Demonstration Space for your other Confluence users. The Demonstration Space helps to familiarise you with Confluence and what it can do for you. You can then continue using your Confluence deployment as normal — there’s no need to reinstall later.
- **Empty Site** — Select this option if you are already familiar with Confluence. You will need to create at least one space before you can start adding content to the site.
- **Restore from Backup** — Select this option if you want to use Confluence data from a previous installation.

**Next Steps**

Restore your data from backup, if you have chosen that option. Start using Confluence — see the [Confluence User Guide](#).

**RELATED TOPICS**

- Confluence Setup Guide
- Universal Wiki Converter
- Confluence User Guide
- Confluence Documentation Home

**Restoring from Backup During Setup**

This page is part of the Confluence Setup Guide.

*Screenshot: Restoring Data*
**Restore Data**

There are two ways you can restore a backup:

- **Upload a zipped backup to Confluence**
  
  ![Upload a zipped backup to Confluence](image)
  
  To be able to search your data an index needs to be built. You can postpone this for later by unchecking the box below.
  
  - **Build Index**
  
  ![Build Index](image)
  
  OR

- **Restore a backup from the filesystem**:
  
  Recommended if you have a large backup file.
  
  Backups must be copied into the `C:\data\vid` directory inside your Confluence `Home directory` and then refresh the page. You should now see your backup file appear on the 'Restore Data' screen (pictured above), in the box beneath the heading 'Restore Data'.
  
  ![No files in directory](image)
  
  - **Build Index**
  
  ![Build Index](image)
  
  - **Restore**

This option allows you to reload your data from an existing Confluence installation into your new Confluence site during the initial setup procedure. You can choose to upload data from a zipped backup file, or to restore from a backup file on your file system.

**Option 1: Upload a zipped backup to Confluence** — This option will load the data from a zipped backup file.

To create a backup file from your existing version of Confluence, go to the 'Backup & Restore' section of your Administration Console.

To restore from a zipped backup:

1. Browse for the relevant daily backup file or a file you have created via a manual backup.
2. Check 'Build Index' to build the data index, used for the search.
3. Click the 'Upload and Restore' button.

**Option 2: Restore a backup from the filesystem** — This option is recommended if you have a very large daily backup file (greater than 100MB), or a daily backup file that is already on the server and doesn’t require uploading.

1. Copy the backup file into the `restore` directory inside your Confluence `Home directory` and then refresh the page. You should now see your backup file appear on the 'Restore Data' screen (pictured above), in the box beneath the heading 'Restore Data'.
2. Check 'Build Index' to build the data index, used for the search.
3. Click the 'Restore' button.

When the restore process has finished, you are ready to log in to Confluence. The system administrator account and all other information has been transferred from your previous Confluence installation.

**RELATED TOPICS**

- Confluence Setup Guide
- Confluence User Guide
- Confluence Documentation Home

**Database Configuration**

This document provides information on configuring an external database.
The Embedded Database for Evaluation Purposes

The Confluence installation includes an embedded HSQLDB database, supplied for the purpose of evaluating Confluence.

If you are using the embedded database, the database files are stored in the \database folder under your Confluence Home directory. See also Important Directories and Files.

- **Embedded Database is Not Suitable for Production Instances of Confluence**
  
  Production instances of Confluence should use an external database. When using the default HSQLDB database, you run the risk of unrecoverable data loss due to not being transaction safe.
  
  - Corruption is occasionally encountered after sudden power loss and can usually be corrected using this data recovery procedure.
  - HSQLDB is still suitable for evaluation purposes, but the risk can only be eliminated by switching databases.
  
  External databases may also provide superior speed and scalability.

Selecting an External Database

- **The XML backup built into Confluence is not well suited for database migration for large data sets (see Alternative Backup Strategy for reference). Choose your database wisely; if you need to migrate later, Atlassian support will refer you to a third party database migration tool. Vote for CONF-12599 to add a more robust strategy for large implementation migrations.**

Below is more information on selecting and migrating to an external database:

- Migrating to a Different Database
- List Of Supported Databases
- Known Issues For Supported Databases

Database Setup

Setup instructions are shown below. Click a database to review the setup guide and any known issues.

- MySQL
- PostgreSQL
- Oracle
- SQL Server
- DB2

Other databases should use these instructions.

Optimising Database Performance

To improve database responsiveness:

- Improving Database Performance
- Known Issues For Supported Databases

Database Troubleshooting

For solving database-related problems:

- Troubleshooting External Database Connections
- Troubleshooting the Embedded Database (HSQL DB)
- Interpreting DB2 error codes
- Known Issues For Supported Databases

Obtain technical support from Troubleshooting Problems & Requesting Technical Support.

Migrate to Another Database

This document outlines how to migrate your data from your existing database to another database. It is designed for migrating from an evaluation to a production database. Large data sets will require third party database migration tools.
You should use this method when moving from the embedded DB to an external DB, or from one type of external DB to another (e.g. Oracle to Postgres). If you are simply moving your DB from one server to another you can just change the JDBC URL in <confluence.home>/confluence.cfg.xml (if you are using a direct JDBC connection) or in the definition of your datasource (if you are connecting via a datasource).

There are two ways you can perform the migration:

1. Method one is the standard procedure.
2. For large installations of Confluence using version 2.2 or later: If the total size of attachments on your installation exceeds 500MB, use method two.

On this page:
- Method One - Standard Procedure
  - Step One: Backing up your data
  - Step Two: Configuring the Confluence Home Directory
  - Step Three: Setting up the new database
  - Step Four: Setting up Confluence with the new database
- Method Two - For large installations
  - Step One: Backing up your data
  - Step Two: Configuring the Confluence Home Directory
  - Step Three: Setting up new database
  - Step Four: Setting up Confluence with the new database
- A Note about Case Sensitivity in your Database
- Troubleshooting

Limitations of Database Migration

The XML backup built into Confluence is not well suited for database migration for large data sets (see Alternative Backup Strategy for reference). If the procedures below do not work, use a commercial database migration tool. Vote for CONF-12599 to add a more robust strategy for large implementation migrations.

Method One - Standard Procedure

Step One: Backing up your data

1. Create a backup of your existing data. This is done from the Administration Console. Instructions on how to create a backup can be found here.
2. Shut down and backup the Confluence Home Directory.
3. If you are already using an external database, please make a backup of it using the utilities that were installed with it.

Note which plugins are currently installed/enabled, so that you can reinstate them later.

Step Two: Configuring the Confluence Home Directory

1. Create a new Confluence Home Directory. You can place this directory anywhere you like and give it a name of your choice.
2. Open WEB-INF/classes/confluence-init.properties file in your Confluence installation and change the confluence.home property to point to this new Confluence Home Directory.

Step Three: Setting up the new database

Perform the database setup instructions for your database.

Step Four: Setting up Confluence with the new database

If your databases are not already configured for Confluence, refer to Database Configuration to setup your database access.

1. Make sure that the JDBC drivers for your database are available to the application server. If you don't already have the JDBC driver, please download one from here.
2. Make sure that your database is using a case-sensitive collation. Please refer to the section on case sensitivity below and see this issue for more details: CONF-7917.
3. If you are running the standalone version of Confluence, copy your JDBC database driver (a .jar file, into the <confluence-install>/lib folder.
4. Start up Confluence. You will see the Confluence Setup Wizard.
5. Select 'Custom Install'.
6. Select your database from the drop down list.
7. Select 'Direct JDBC' and then enter the details of the new database you want to migrate to.

Read the documentation on the Setup Wizard for more detailed explanation.
8. When prompted, restore the contents of the backup you made in Step One into the new Confluence site.

Your old Confluence data will now be imported to your new database.

**Method Two - For large installations**

**Step One: Backing up your data**

1. Before proceeding with these instructions please check that:
   - you are upgrading from at least Confluence version 2.2 and
   - your attachments are stored in the file system, and not in your database. (To migrate between attachment storage systems, please see [Attachment Storage Configuration](#)).
   - These instructions will not work if either of the above is not true.
2. From Confluence, go to Administration -> Backup & Restore and create a manual backup that excludes attachments.
3. Shut down and back up the Confluence Home Directory.
4. If you are already using an external database, please make a backup of it using the utilities that were installed with it.

**Step Two: Configuring the Confluence Home Directory**

1. Create a new Confluence Home Directory. You can place this directory anywhere you like and give it a name of your choice.
2. Open WEB-INF/classes/confluence-init.properties file in your Confluence installation and change the confluence.home property to point to this new Confluence Home Directory.

**Step Three: Moving your attachments**

Move the contents of your attachments directory from your old Confluence Home to your new Confluence Home.

**Step Four: Setting up new database**

Perform the database setup instructions for your database.

**Step Five: Setting up Confluence with the new database**

If your databases are not already configured for Confluence, refer to Database Configuration to setup your database access.

1. Make sure that the JDBC drivers for your database are available to the application server. If you don't already have the JDBC driver, please download one from [here](#).
2. Make sure that your database is using a case-sensitive collation. Please refer to the section on case sensitivity below and see this issue for more details: CONF-7917.
3. If you are running the standalone version of Confluence, copy your JDBC database driver (a .jar file), into the <confluence-install>/lib folder.
4. Start up Confluence. You will see the Confluence Setup Wizard.
5. Select ‘Custom Install’.
6. Select your database from the drop down list.
7. Select ‘Direct JDBC’ and then enter the details of the new database you want to migrate to.
   - Read the documentation on the Confluence Setup Wizard for more detailed explanation.
8. When prompted, restore the contents of the backup you made in Step One into the new Confluence site.

**A Note about Case Sensitivity in your Database**

*Collation* refers to a set of rules that determine how data is sorted and compared. Case sensitivity is one aspect of collation. Other aspects include sensitivity to kana (Japanese script) and to width (single- versus double-byte characters).

Case-sensitive or case-insensitive collation — how should you create your Confluence database? What about when you are migrating your existing Confluence instance from one database to another?

**Setting up a New Confluence Instance**

For new Confluence instances, we recommend using case-sensitive collation for your Confluence database, which is the default collation type used by many database systems. The Confluence application itself reduces all usernames into lower-case characters before they are stored in the Confluence database. Therefore, ‘joebloggs’, ‘joeBloggs’, ‘JoeBloggs’, etc. will be treated as the same username on a Confluence installation with case-sensitive database collation.

**Migrating an Existing Confluence Instance to a Different Database**

The default Confluence Standalone configuration uses case-sensitive database collation. This is often the case with databases on several other systems which were created under default conditions. Therefore, if you are migrating from this type of configuration to a new database, we recommend that the new database uses case-sensitive collation. If you use case-insensitive collation, you may encounter data integrity problems after migration (for example, via an XML import) if data stored within your original Confluence site required case-sensitive distinctions.

**Troubleshooting**

If you're unable to restore your XML backup, consult our Troubleshooting Guide.
The Embedded HSQLDB Database

The Confluence installation includes an embedded HSQLDB database, supplied for the purpose of evaluating Confluence.

If you are using the embedded database, the database files are stored in the \database folder under your Confluence Home directory. See also Important Directories and Files.

**Embedded Database is Not Suitable for Production Instances of Confluence**

Production instances of Confluence should use an external database. When using the default HSQLDB database, you run the risk of unrecoverable data loss due to not being transaction safe.

- Corruption is occasionally encountered after sudden power loss and can usually be corrected using this data recovery procedure.
- HSQLDB is still suitable for evaluation purposes, but the risk can only be eliminated by switching databases. External databases may also provide superior speed and scalability.

**List Of Supported Databases**

The Confluence installation includes a pre-configured HSQLDB database for evaluation purposes only. For safe production use, you need to configure Confluence to use an external database listed below.

**Supported Databases**

Confluence supports the following database systems, provided they are running on a Windows, Unix (NetBSD, FreeBSD, OpenBSD, Solaris, Linux), Mac OS X on X86 or X86-64 processors.

<table>
<thead>
<tr>
<th>Database</th>
<th>Supported in Confluence 3.0 (JUN/2009)</th>
<th>Works with Confluence 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>PostgreSQL</td>
<td>8.1, 8.2</td>
<td>8.0, 8.3</td>
</tr>
<tr>
<td>Oracle</td>
<td>10.1, 10.2</td>
<td>11</td>
</tr>
<tr>
<td>MySQL</td>
<td>5.0.28 and above</td>
<td>5.0 - 5.0.27</td>
</tr>
<tr>
<td>DB2</td>
<td>8.2, 9.7</td>
<td></td>
</tr>
<tr>
<td>SQL Server</td>
<td>2005</td>
<td></td>
</tr>
</tbody>
</table>

☆ Column labelled 'Works with' as opposed to 'Supported in': We assume that Confluence works fine with these database versions. But please be aware that we don't test these versions regularly and that we may ask you to upgrade to a supported platform before we can provide more detailed support.

If your database does not appear on this list, please read the questions and answers about supported platforms.

If you have no preference, we recommend using PostgreSQL — it is scalable, free, and easy to set up. For database setup information, see Database Configuration and Database Setup For Any External Database.

Refer to the list of known issues for these databases.

**Unsupported Databases**

For Confluence 2.10 and later, MySQL 4.1.x is not supported — please upgrade to MySQL 5.
The decision to deprecate this database was announced previously.

There is a workaround to enable MySQL 4.1.x.

**RELATED TOPICS:**
- Server Hardware Requirements Guide
- List Of Supported Operating Systems
- System Requirements
- List Of Supported Application Servers
- Supported Platforms FAQ

**Database Setup Guides**

- Database Setup For Any External Database
- Database Setup for PostgreSQL on Windows
- Database Setup For MySQL
- Database Setup for Oracle
- Database Setup for SQL Server
- Database JDBC drivers

**Database Setup For Any External Database**

If you are using Confluence in a production environment, data should be stored in an external database. The embedded database is bundled for evaluation purposes and does not offer full transactional integrity in the event of sudden power loss.

This document provides instructions for setting up Confluence for use with a production-ready database. It covers both migration from an evaluation installation of Confluence and installation of an empty database during initial setup. The following specific database guides have additional information:
- PostgreSQL Guide
- MySQL Guide
- Oracle Guide
- SQL Server

**Preparation**

Install the following on the Confluence server:
- Database administration tool, for example DBVisualizer
- JDBC database drivers
- The database server (unless accessed remotely)

The instructions refer to two particular directories:
- The `<Confluence Installation Directory>` is the directory where you unpacked the Standalone Confluence download.
- The `<Confluence Home Directory>` is the directory where Confluence stores its data, which you set by editing the `confluence-init.properties` file in `confluence/WEB-INF/classes`.

**Database Setup**

Create the schema and setup permissions:

1. Visit the Database Configuration page to review any known issues and database setup for your database.
2. Create a new schema using the correct database encoding.
3. Create a user with full read/write access to the Confluence schema, including the ability to create tables.
4. If the database only permits users to log in from approved hosts (e.g. `localhost`), grant database access permission for the Confluence server.
5. If the database is hosted remotely to the Confluence server, set up any firewall permissions.
6. Test the connection by using the database administration tool installed on the Confluence server to log in to the database.

---

**Migration From an Evaluation Instance of Confluence**

Continue here if you are migrating from an evaluation instance with the built-in database. If you are installing Confluence for the first time, continue below.

**Create Backups**

To keep any existing Confluence content:

1. If you are already using an external database, use your database administration tool to create a full database backup.
2. Manually create an XML backup of Confluence under 'Administration' -> 'Backup & Restore'. If you have less than 100MB of attachments, check 'Backup attachments' when creating the backup. If you have over 100MB of attachments, you should not check the 'Backup attachments' and instead you should manually copy the `/attachments` directory in your Confluence home to a backup location. This attachments directory will later be copied into the new home directory.
3. Download the backup file to a backup location.

**Database Connection Setup**

Set up Confluence's database connection:

1. Stop Confluence if it is already running.
2. The JDBC database drivers for your database must be available to the application server. You can skip this step if the drivers are already loaded.
   a. Copy the database driver JAR file into the lib directory. In Confluence Standalone this directory is /confluence/WEB-INF/lib. Other application servers will use a different path.
   b. If the application server does not support dynamic library loading, stop your application server.
3. Create a new Confluence home directory.
4. Open the WEB-INF/classes/confluence-init.properties file in your Confluence installation and change the confluence.home property to point to this new Confluence home directory.
5. Start up Confluence. Refer to the platform-specific installation instructions to learn how. You should be presented with the Confluence setup wizard. Enter your license information.
6. Select 'Custom install'.
7. Select a database from the drop down list.
8. Select Direct JDBC and then enter the username, password and database driver of the new database.
9. If you created a Confluence backup earlier and wish to restore it, import it into Confluence now.
10. Once the wizard is complete, if you did not check the 'Backup attachments', copy the backed up /attachments directory into the new Confluence home.

**RELATED TOPICS**

Troubleshooting External Database Connections

**Database Setup for PostgreSQL on Windows**

This guide was created on a Windows XP Service Pack 3 machine. Please check the Known Issues for PostgreSQL before you start.

**Installing PostgreSQL, Creating a User, and Creating a Database**

1. Obtain the PostgreSQL One Click Installer for Windows. Save it to your desktop.
2. Double click on the installer.

   ![Setup](image)

   **Setup - PostgreSQL**

   Welcome to the PostgreSQL Setup Wizard.

3. Choose a Data Directory.


5. Choose a password.
5. Select the port.

6. **Select the port.**

   **Password**

   Please provide a password for the database superuser and service account (postgres). If the service account already exists in Windows, you must enter the current password for the account.

   ![Password input fields]

   1. Choose a password for the 'postgres' account. This is the db root level account.

   ![Port selection input field]

   5432 is the default port. If you do change this number, please ensure that the new port does not conflict with any services currently running on that port and that you remember to update all further mentions of db port.

7. **Choose a Locale.**
8. Click 'Next'.

9. Wait for the installation to complete.
10. Skip Stack Builder.

11. Here's where to start the Admin tool.
12. Enter a password.

1. Double Click on Server

2. Enter 'postgres' password when prompted.

13. Make a new user.
14. Enter a name and password.

15. Create a new database.
16. Assign DB Owner permissions.

Setting up Confluence to use the PostgreSQL Database

At this point, you will need to download a JDBC driver from the PostgreSQL website for use with Confluence. You'll need the JDBC3 driver if you're using JDK 1.4 / JDK 1.5 and the JDBC4 driver for JDK 1.6.
Windows renames .jar extensions to .zip! Just rename it back to .jar. You'll have to set your folder options to view hidden file extensions if you can't rename it without changing the file type (Tools >> Folder Options >> View >> Uncheck "Hide Extensions for known file types."

If the server that is hosting the PostgreSQL database is not the same server as Confluence, then please ensure that the confluence server can contact the database server and also refer to the PostgreSQL documentation on how to set up pg_hba.conf if the pg_hba.conf file is not set properly, remote communication to the PostgreSQL server will fail.

1. Download Confluence Standalone, unzip it. (The directory into which you unzipped the Confluence installation is called the Confluence Installation directory. Next you will define the Confluence Home directory.)
3. Place the JDBC Driver into the <confluence-install-path>/confluence/WEB-INF/lib folder.
4. Start Confluence and after entering your license code on the Confluence Setup Wizard page, click 'Custom Installation'.
5. On the 'Choose a Database Configuration' page, select 'PostgreSQL' and click 'External Database'.
6. Click ‘Direct JDBC’.

7. Enter your PostgreSQL database setup details (defined above) as indicated below.

Running SQL Queries

For ongoing maintenance of your server, you can continue to use PGAdmin as your SQL browser.

Troubleshooting

If you are unable to connect to the database from Confluence and they are on different machines, most likely you have a firewall in between the two machines or your pg_hba.conf file is misconfigured. Verify that your firewall is set to allow connections through 5432 or double check your hba configuration.

If Confluence is complaining that it’s missing a class file, you might have forgotten to place the jdbc driver in the WEB-INF/lib folder or possibly have placed it in the wrong folder.

If none of the above describes your issue, please create a support ticket at http://support.atlassian.com and be sure to include your logs (found in confluence-install/logs and confluence-data/logs).

Database Setup For MySQL
Confluence should use an external database for production purposes, as the embedded database does not offer full transactional integrity in the event of sudden power loss. Confluence Standalone with MySQL is well-tested and easily configured for production purposes.

This page provides instructions for installing Confluence and the open-source MySQL database on Microsoft Windows and how to set up and configure MySQL to work with Confluence. Additional instructions are also provided for migrating across any existing Confluence database content. Use this guide in conjunction with the more general Database Setup Guide for Any Database. These instructions add some important reference notes specific to MySQL.

**Stage 1 - MySQL Database Setup**

1. **Install Confluence** if you have not done so already.

2. **MySQL 5.0** is supported since Confluence 2.5 and above.

3. Once the MySQL database server has been installed, run through the 'MySQL Server Instance Config Wizard':

   - At the start of the Config Wizard (or after having chosen Reconfigure Instance), choose Detailed Configuration.
   - Choose the type of MySQL Server that best suits your hardware requirements. This will affect the MySQL Server's usage of memory, disk and CPU resources. Refer to the relevant MySQL documentation for further information.
   - Choose Transactional Database Only for the database usage step. This ensures that your MySQL database will use InnoDB as its default storage engine. It is highly recommended that you only use the InnoDB storage engine with Confluence. Avoid using the MyISAM storage engine as this can lead to data corruption.
   - Set the InnoDB Tablespace settings to your requirements. (The default settings should be acceptable.)
   - For the networking options, ensure the Enable TCP/IP Networking option is selected (default) and that the Enable Strict Mode option is also selected (default). Refer to the MySQL documentation on setting the networking and server SQL modes for further information.
   - For the MySQL server instance's default character set option, choose Best Support For Multilingualism (i.e. UTF-8).
   - If you choose not to install the MySQL Server as a Windows Service, you will need to ensure that the database service has been started before running Confluence. If you choose to use one of the presets if desired or enter a number manually. Refer to the relevant MySQL documentation for further information.
   - Launch the MySQL Server automatically.
   - If you intend to connect Confluence to an existing, operational MySQL database server instance, we strongly recommend that you reconfigure this database server instance by running through the Config Wizard and initially choosing the Reconfigure Instance option.

4. **Download the latest MySQL Connector/J driver**, version 5.1 or newer.

5. **Extract the mysql-connector-java-5.x.y-bin.jar** file from the Connector J archive and place it in either the Confluence Installation Directory/lib or Confluence Installation Directory/conf/confluence/WEB-INF/lib directories. (The x.y depends on exactly which version you download – MySQL updates the version number from time to time.)

**Please note the following points:**

- Throughout the instructions below, the Confluence Installation Directory refers to the directory where you extracted the Confluence zipped installer.
- The MySQL Database Setup procedure below will make modifications to your default MySQL Server settings. These modifications result in:
  1. The default collation (localisation) option being changed to utf8_bin (that is, case-sensitive binary UTF8), such that by default, all new database tables will be created with this type of case-sensitive collation.
  2. The default MySQL database storage engine being changed to 'InnoDB'.

**Installation and Configuration**

Complete the following steps to install and configure Confluence and the MySQL Server:

1. **Install Confluence** if you have not done so already.

2. **MySQL 5.0** is supported since Confluence 2.5 and above.

3. Once the MySQL database server has been installed, run through the 'MySQL Server Instance Config Wizard':

   a. At the start of the Config Wizard (or after having chosen Reconfigure Instance), choose Detailed Configuration.
   b. Choose the type of MySQL Server that best suits your hardware requirements. This will affect the MySQL Server's usage of memory, disk and CPU resources. Refer to the relevant MySQL documentation for further information.
   c. Choose Transactional Database Only for the database usage step. This ensures that your MySQL database will use InnoDB as its default storage engine. It is highly recommended that you only use the InnoDB storage engine with Confluence. Avoid using the MyISAM storage engine as this can lead to data corruption.
   d. Set the InnoDB Tablespace settings to your requirements. (The default settings should be acceptable.)
   e. Choose Transactional Database Only for the database usage step. This ensures that your MySQL database will use InnoDB as its default storage engine. It is highly recommended that you only use the InnoDB storage engine with Confluence. Avoid using the MyISAM storage engine as this can lead to data corruption.
   f. Set the approximate number of concurrent connections permitted that best suits your Confluence usage requirements. You can use one of the presets if desired or enter a number manually. Refer to the relevant MySQL documentation for further information.
   g. For the networking options, ensure the Enable TCP/IP Networking option is selected (default) and that the Enable Strict Mode option is also selected (default). Refer to the MySQL documentation on setting the networking and server SQL modes for further information.
   h. For the MySQL server instance's default character set option, choose Best Support For Multilingualism (i.e. UTF-8).
   i. Launch the MySQL Server automatically.
   j. If you choose not to install the MySQL Server as a Windows Service, you will need to ensure that the database service has been started before running Confluence.
   k. If you choose not to install the MySQL Server as a Windows Service, you will need to ensure that the database service has been started before running Confluence.

4. **Download the latest MySQL Connector/J driver**, version 5.1 or newer.

5. **Extract the mysql-connector-java-5.x.y-bin.jar** file from the Connector J archive and place it in either the Confluence Installation Directory/lib or Confluence Installation Directory/conf/confluence/WEB-INF/lib directories. (The x.y depends on exactly which version you download – MySQL updates the version number from time to time.)
To create the database and user privileges:

1. Start the 'MySQL Administrator' application and enter your login credentials when prompted to connect to the MySQL database server.
   - If you ran through the 'MySQL Server Instance Config Wizard' in step 3 of the Installation and Configuration (above) and did not change your username, you should be able to connect to the MySQL database server using the default Username of 'root', Server Host of 'localhost' (assuming you are running MySQL Administrator on the same machine as the MySQL Server) and Password which you set in the Config Wizard.
   - If, however, you are running MySQL for the first time and you have not yet run through the Config Wizard, or you do not recall having set your login credentials, you should be able to click OK without a Username and Password.

2. Go to Service Control in the left pane and ensure that the MySQL Service is stopped. If not, click 'Stop Service' to stop the MySQL Service.

3. Go to Startup Variables in the left pane and click the 'Advanced' tab.

4. Ensure that the 'Default Collation' check box is selected, enter 'utf8_bin' for the 'Data Collation' value and click 'Apply changes'.
   - If you did not run through the 'MySQL Server Instance Config Wizard' in step 3 of the Installation and Configuration (above), click the 'General Parameters' tab and ensure that the Default storage check box has been selected with its value set to InnoDB.
   - Also, click the 'InnoDB Parameters' tab and ensure that the Activate InnoDB check box is selected. If not, implement these settings and click 'Apply changes' before proceeding.

5. Go back to Service Control in the left pane and click 'Start Service' to re-start the MySQL Service (with the updated default collation settings).

6. Go to Catalogs in the left pane, then right-click in the schema list at the bottom of this pane and select 'Create New Schema' from the pop-up menu.

7. Call the new Schema name 'confluence' and click 'OK'.

8. Go to User Administration in the left pane and then click 'Add new user' at the bottom of the window.

9. Enter the MySQL username 'confluenceuser'.
   - In fact, you can enter any legitimate MySQL username. However, the remaining steps and procedures on this page assume that you have entered the MySQL username of 'confluenceuser' at this point. If you choose a different MySQL username, substitute 'confluenceuser' in the remaining steps and procedures with your chosen MySQL username.

10. Enter and re-confirm a password for this user and click 'Apply changes'.

11. Right-click on the username 'confluenceuser' in the left pane and choose 'Add host from which the user can connect' from the pop-up menu.
   - If prompted to enable the global 'Show hosts in user list' option, choose 'Yes'.

12. Enter the host name 'localhost' and click 'OK'.

13. Click on 'localhost' within 'confluenceuser' in the left pane. (You might need to click on the name 'confluenceuser' first).

14. Click the 'Schema Privileges' tab and then click 'confluence' in the 'Schemata' list.

15. Make sure that 'confluenceuser@localhost' has all privileges assigned to them by clicking the '<-' button to move the privileges from the 'Available' to the 'Assigned' list and click 'Apply changes'.
   - To support international languages in Confluence, you should verify the newly created database is using UTF-8 encoding and re-examine the JDBC URL settings (configured in Stage 3).

Stage 2 - For Users With Existing Data Only

This stage is only required if you have existing Confluence content you wish to transfer:

1. Manually create an XML backup of Confluence under Administration -> Backup & Restore. If you have less than 100MB of attachments, check 'Backup attachments' when creating the backup. If you have over 100MB of attachments, you should not check the 'Backup attachments' and instead you should manually copy the /attachments directory in your Confluence home to another location. This attachments directory can then be copied into the new home directory as describe later.

2. Download the backup file to a backups folder.


Stage 3 - Database Connection Setup

To set up your Confluence MySQL database connection or to switch to using this external database:

1. Ensure that Confluence is stopped (for example, by ensuring that the application server instance or service which is running Confluence has been stopped or terminated).

2. Edit Confluence Installation Directory/confluence/WEB-INF/classes/confluence-init.properties and change the confluence.home property to point to a new directory, e.g. if you had
2. You could change it to:

```
confluence.home=c:/confluencedata_mysql
```

This is your new Confluence Home Directory. (The name doesn't have to end in _mysql – that's just an example)

3. Start Confluence and set up the new configuration.
   a. Enter your license key and click the 'Custom Installation' button.
   b. Under the 'External Database' heading, select 'MySQL' from the dropdown list and click 'External Database'.
   c. On the next page, click 'Direct JDBC'.
   d. Enter confluenceuser in the User Name field, and the password you chose earlier in the Password field.
   e. Click the Next button. If you get the error message 'Could not successfully test your database: Server connection failure during transaction. Due to underlying exception: 'java.sql.SQLException: Access denied for user 'confluenceuser'@'localhost' (using password: YES)' verify that you have properly given the confluenceuser user all the right permissions when connecting from localhost.

Stage 4 - For Users With Existing Data Only

To re-import your backup and plugin-cache:

1. At the 'Load Content' page, choose 'Restore From Backup', browse for the backup you created and restore it. Otherwise choose either the example or empty site as you wish.

2. Stop Confluence.

If you encounter any issues in setting up your MySQL database to work with Confluence, please refer to Known Issues for MySQL.

Related Documents

Configuring Database Character Encoding
Known Issues for MySQL

Database Setup for Oracle

This guide covers deploying Confluence standalone 2.2 or later against an Oracle database, and is also applicable to the WAR distribution. For older Confluence versions, please follow these instructions.

This database can only be set up by an Oracle database administrator (DBA). If you are not a DBA, you should not attempt to set up this database.

Oracle has a history of being extremely difficult to set up. If you do not have access to an experienced Oracle DBA in your organisation, you are recommended to start with an alternative database and only consider migrating to Oracle after approval from their DBA. Atlassian’s technical support for Oracle setup difficulties will also reflect the high minimum skill requirements for attempting an Oracle setup.

**Database Setup Information**

This setup guide must be used in conjunction with the list of Known Issues For Oracle. Please review that page before continuing.

**Schema Requirements**

Confluence must be deployed to a schema in it’s own, separate Oracle instance. This avoids a Hibernate bug triggered by the existence of duplicate tablenames in other schemas, outlined [here](#).

**Database Incompatibilities**

Oracle 9i and later are supported, please upgrade any older versions prior to installing Confluence.

**Database driver update may be required**

For all versions of Oracle, you must upgrade to the latest 10g drivers. Check the latest [compatibility matrix](#) before proceeding to the JDBC download page. We highly recommend to use the thin drivers.

Please check that your version of Oracle does not have any known issues:
### Oracle Version | Oracle Driver | Issue | Solution
--- | --- | --- | ---
Any | Pre 10g | Driver incompatibilities | Upgrade to latest 10g drivers if compatible
Pre 9 | Any | Earlier DBs not compatible | Upgrade DB to 9.x or later
9.0.1.0 | Any | DB not compatible | Upgrade DB to 9.0.2.6 or later
10g | 10.1.0.3.0 | Drivers not compatible with Tomcat 5.5 | Upgrade drivers to 10.1.0.4.0 or later

You might also be interested in a [relevant JIRA documentation](https://confluence.atlassian.com) to check the compatibility of your Oracle server and driver.

### Deploying Against Oracle

Complete the instructions for [installing Confluence standalone](https://confluence.atlassian.com), then return to this document instead of proceeding to the Confluence Setup Guide.

### Database Preparation

Tailor these instructions to your particular database version:

1. Perform any necessary database or driver upgrades. Download the latest compatible database drivers.
2. Create a separate instance of Oracle and apply any configuration tasks.
3. Create a Confluence user configuration and grant access permissions.

### Adding a Datasource to Tomcat

1. Open `<INSTALL>/conf/server.xml` for editing.
2. Locate the section `<Host -> Context>`

```
<Host name="localhost" debug="0" appBase="webapps" unpackWARs="true" autoDeploy="false">
  <Context path="" docBase="..;/confluence" debug="0" reloadable="true">
    <!-- Logger is deprecated in Tomcat 5.5. Logging configuration for Confluence is specified in confluence/WEB-INF/classes/log4j.properties -->
    <Manager pathname="" />
  </Context>
</Host>
```

3. Paste in the `<Resource>` section provided, prior to `Manager` as shown:

```
<Host name="localhost" debug="0" appBase="webapps" unpackWARs="true" autoDeploy="false">
  <Context path="" docBase="..;/confluence" debug="0" reloadable="true">
    <!-- Logger is deprecated in Tomcat 5.5. Logging configuration for Confluence is specified in confluence/WEB-INF/classes/log4j.properties -->
    
    <Resource name="jdbc/confluence" auth="Container" type="javax.sql.DataSource" driverClassName="oracle.jdbc.driver.OracleDriver" url="jdbc:oracle:thin:@hostname:port:sid" username="<username>" password="<password>"><connectionProperties="SetBigStringTryClob=true" maxActive="25" maxIdle="5" maxWait="10000" /><Manager pathname="/" />
  </Context>
</Host>
```

4. Change the `username` and `password` to match the Oracle login.
5. Change `url` to match `hostname`, `port` and `sid` of the Oracle server. `sid` stands for the Schema ID. For example:

```
jdbc:oracle:thin:@example.atlassian.com:1521:confluencedb
```

For connecting to an Oracle RAC cluster, you’ll need to edit the connection string directly in `confluence.cfg.xml`, using Oracle’s connection syntax like this:
This example has been broken up over multiple lines for clarity, but it should be compacted into a single line when actually added to confluence.cfg.xml on your server.

6. If required, choose different maxActive and maxIdle values. These set how many total database connections will be allowed at one time, and how many will be kept open even when there is no database activity.

**Configure Confluence Datasource Access**

Confluence must be configured to use this datasource:

1. Edit the file `<INSTALL>/confluence/WEB-INF/web.xml`

2. Go to the end of the file and just before `</web-app>`, insert the following:

   ```
   <resource-ref>
   <description>Connection Pool</description>
   <res-ref-name>jdbc/confluence</res-ref-name>
   <res-type>javax.sql.DataSource</res-type>
   <res-auth>Container</res-auth>
   </resource-ref>
   ```

3. Locate the Oracle JDBC database drivers for JDK 1.4, which comes bundled with your database. We recommend using the thin drivers only. Copy `ojdbc14.jar` to the `<INSTALL>/common/lib` directory. This directory path is potentially `<INSTALL>/lib` if Confluence is running off Apache Tomcat version 6 or above.

**Confluence Setup Wizard**

Now Confluence is ready to attempt to connect to Oracle:

1. Startup Confluence using `<INSTALL>/bin/startup.bat` or `<INSTALL>/bin/startup.sh`

2. Insert your licence and select **External Database**.

3. Select **Datasource Connection** using your Oracle version.

4. Enter `java:comp/env/jdbc/confluence` for the name of the datasource.

Confluence should now deploy using the Oracle database specified. Please read this comment on Oracle database optimisation.

**Generic Oracle Configuration Tips**

**Websphere and Oracle**

If you are planning to run Confluence on a Websphere application server and Oracle database, you should read the information on Known Issues for Websphere.

**24-hour time format with Oracle 8i**

We have received a report from a user that when an Oracle 8i database is configured to use 24-hour time as the default format, an exception like this may occur:

```
jdbc:oracle:thin:@(DESCRIPTION=(SDU=32768)
(enable-broken)
(LOAD_BALANCE=yes)
(FAILOVER=yes)
(ADDRESS=
(PROTOCOL=TCP)
(HOST=dbserver1.example.com)
(PORT=1525))
(ADDRESS=
(PROTOCOL=TCP)
(HOST=dbserver2.example.com)
(PORT=1525))
(CONNECT_DATA=
(SERVICE_NAME=CONFDB)))
```
One symptom of this problem is that Confluence may refuse to start after midday.

The workaround is to go to 'General Configuration' and set the default time format to "HH:mm".

RELEVANT TOPICS

Known Issues For Oracle

Database Setup for Oracle (Pre Confluence 2.2)

This document is out of date

This documentation applies to Confluence 2.1.x or older. If you have Confluence 2.2.x or newer, please refer to Database Setup for Oracle.

Please note, we strongly recommend you install Confluence on a schema in a brand new database on your Oracle server. If this cannot be accommodated, be aware that Confluence may not install or operate properly. For more details on this limitation please see the issue filed here.

This installation assumes you are using the standalone distribution of Confluence and Oracle 9i. We have not tested against older versions of Oracle, but have been told that it should work against Oracle 8i provided you use the latest 9i drivers.

Note that some users have found that 9.0.1.0 does not work, while 9.0.2.6 does.

If you are using 10g you should use the 10.1.0.4.0 drivers – the 10.1.0.3.0 drivers don't work when using a Tomcat 5.5 datasource, as the connection returned is a T4CConnection instead of the OracleConnection which Spring is expecting.

1. Adding a datasource to Tomcat Versions before 5.5

   - Edit the conf/server.xml file in your Tomcat installation
   - Find the following lines:

   ```xml
   <Context path="" docBase="../confluence" debug="0" reloadable="true">
   <Logger className="org.apache.catalina.logger.FileLogger" prefix="atlassian-confluence." suffix=".log" timestamp="true"/>
   ```

   - Directly after the `<Logger.../>` line, (before the next `</Context>` line), insert the following:
You may want to choose different maxActive and maxIdle values: these are how many total database connections will be allowed at one time, and how many will be kept open even when there is no database activity.

- Replace the username and password parameters with the correct values for your database.
- In the url parameter, replace the word 'oracle-sid' with the name of the database your confluence data will be stored in. Obviously also change the hostname and port.

Versions 5.5 and later

In Tomcat 5.5 the configuration format has changed. The data source resource should be defined like this:

```xml
<Resource name="jdbc/Confluence" auth="Container" type="javax.sql.DataSource"/>
<ResourceParam name="jdbc/Confluence">
  <parameter>
    <name>Factory</name>
    <value>org.apache.commons.dbcp.BasicDataSourceFactory</value>
  </parameter>
  <parameter>
    <name>maxActive</name>
    <value>20</value>
  </parameter>
  <parameter>
    <name>maxIdle</name>
    <value>10</value>
  </parameter>
  <parameter>
    <name>maxWait</name>
    <value>10000</value>
  </parameter>
  <parameter>
    <name>username</name>
    <value>yourusername</value>
  </parameter>
  <parameter>
    <name>password</name>
    <value>yourpassword</value>
  </parameter>
  <parameter>
    <name>driverClassName</name>
    <value>oracle.jdbc.driver.OracleDriver</value>
  </parameter>
  <parameter>
    <name>url</name>
    <value>jdbc:oracle:thin:@hostname:port:oracle-sid</value>
  </parameter>
</ResourceParam>
```

- Copy the ojdbc14.jar to the common/lib directory (this jar is the oracle jdbc thin driver for JDK 1.4. It comes bundled with your Oracle 9i database). We recommend using the thin drivers only.

2. Configure the Confluence to be aware of this datasource

- Edit confluence/WEB-INF/web.xml in your confluence installation
- Go to the end of the file and just before </web-app>, insert the following:

```xml
<Resource name="jdbc/Confluence" auth="Container" type="javax.sql.DataSource">
  <ResourceParams name="jdbc/Confluence">
    <parameter>
      <name>factory</name>
      <value>org.apache.commons.dbcp.BasicDataSourceFactory</value>
    </parameter>
    <parameter>
      <name>maxActive</name>
      <value>25</value>
    </parameter>
    <parameter>
      <name>maxIdle</name>
      <value>5</value>
    </parameter>
    <parameter>
      <name>maxWait</name>
      <value>10000</value>
    </parameter>
  </ResourceParams>
</Resource>
```

3. Confluence setup wizard

- Startup confluence using bin/startup.bat or startup.sh
- Run through the setup process and when asked to choose a database type: choose Datasource Connection
• Enter in `java:comp/env/jdbc/confluence` for the name of the datasource and select the oracle 9 dialect.
• Complete the setup and that’s it!

Database Setup for SQL Server

Use this guide in conjunction with the more general Database Setup Guide for Any Database. These instructions add some reference notes specific to SQL Server.

1. Review Known Issues For SQL Server
2. Identify Character Encoding
   To identify which character encoding to use, check the encoding used by your application server and Confluence now. All three must use compatible encoding. For example, the default SQL Server encoding of USC-2 is compatible with UTF-8.
3. Create Database
   As an SQL administrator, create a new database. If you set your application server and Confluence to use an encoding incompatible with USC-2, specify that character encoding for the database.
4. Create SQL User Account
   As an SQL administrator, create a new user account for Confluence. Provide full create, read and write permissions for the table. Note that Confluence must be able to create its own schema.
5. Install Database Drivers
   SQL Server users are strongly recommended to install the jTDS JDBC drivers. These instructions add some reference notes specific to SQL Server.
   a. If using direct JDBC connection, copy the driver file `jtds-<version>.jar` into your standalone's `<confluence install>/WEB-INF/lib` directory.
   b. If you are configuring a datasource to connect to your MS SQL server database, you will need to place the jar file in `<confluence install>/lib` (for Confluence 2.10 onwards) or `<confluence install>/common/lib` (for earlier versions). You may find this page helpful: http://jtds.sourceforge.net/faq.html
6. Start Confluence and visit the home URL (eg http://localhost:8080) to start the Confluence Setup Wizard and select a Custom Install, insert the relevant connection information.
7. When prompted for a driver class name in the database setup step enter:
   ```
   net.sourceforge.jtds.jdbc.Driver
   ```
8. When prompted for the jdbc url, the format to use is:
   ```
   jdbc:jtds:sqlserver://<server>:<port>/<database>
   ```

Database JDBC drivers

Below you can find a link to the JDBC drivers for all currently supported databases. You will need to make the driver available to your application server.

JDBC driver download links -

- PostgreSQL - Download the JDBC 3 driver version specific to your PostgreSQL version
- MySQL
- Oracle
- DB2
- Microsoft SQL Server - Link goes to recommended jTDS JDBC drivers
- Sybase ASE

Creating Database Schema Manually

Database Schema Creation

This document provides information on how to find the SQL for database table creation.

Often, DBAs will require that table creation be done manually. To find the required SQL statements, you can use the script generated from our evaluation version's HSQLDB database.

- Install Confluence with no external database.
- Shut down Confluence.
- Find the file located in `<confluence-home>/database/confluencedb.script`.

The `confluence-home` directory is not your installation directory, the directory specified in `confluence-init.properties`. For more information, see Confluence Home Directory and Confluence Installation Directory.

To see some example SQL statements, click 'Tools' and select 'Attachments' on this wiki page.
To get Confluence to run against this established schema, configure the database with the normal procedure, then modify the hibernate.connection.url, username and password from `confluence-home/confluence.cfg.xml` or `server.xml`, depending on whether it's a direct jdbc or resource connection. This is described in Migrating Confluence Between Servers.

**RELATED TOPICS**

Database Configuration

**Known Issues For Supported Databases**

**Supported Databases**

See the List Of Supported Databases.

**Troubleshooting**

- Known Issues for Sybase Database
- Configuring Database Character Encoding
- Known Issues For SQL Server
- Known Issues for PostgreSQL
- Known Issues for Oracle
- Known Issues for DB2
- Known Issues for MySQL

**Configuring Database Character Encoding**

On this page:

- JDBC connection settings
  - MySQL
- Creating a UTF-8 database
  - MySQL
  - PostgreSQL
  - For PostgreSQL running under Windows
  - For PostgreSQL running under Linux
- Updating existing database to UTF-8
  - MySQL database with existing data
- Testing database encoding

The database used with Confluence should be configured to use the same character encoding as Confluence. The recommended encoding is Unicode UTF-8.

There are two places where character encoding may need to be configured:

- when creating the database
- when connecting to the database (JDBC connection URL or properties).

The configuration details for each type of database are different. Some examples are below.

**JDBC connection settings**

**MySQL**

Append `useUnicode=true` to your JDBC URL:

```
jdbc:mysql://hostname:port/database?autoReconnect=true&useUnicode=true&characterEncoding=utf8
```
If you are modifying confluence.cfg.xml directly rather than via the Confluence Installation GUI, you’ll need to escape out the & in the URL string as this is a reserved XML token and will break the confluence.cfg.xml syntax when the XML is parsed. An effective URL could be similar to:

```xml
<property
    name="hibernate.connection.url">jdbc:mysql://hostname:port/database?autoReconnect=true&amp;useUnicode=true&amp;characterEncoding=utf8</property>
```

### Creating a UTF-8 database

**MySQL**

1. Create a UTF-8 database with binary UTF-8 collation.
   
   - Binary UTF-8 provides case-sensitive collation.

   ```sql
   CREATE DATABASE confluence CHARACTER SET utf8 COLLATE utf8_bin;
   ```

2. You will also need to set the Server Character set to utf8. This can be done by adding the following in my.ini for Windows or my.cnf for other OS. It has to be declared in the Server section, which is the section after `[mysqld]`:

   ```ini
   [mysqld]
   default-character-set=utf8
   ```

3. Use the `status` command to verify database character encoding information.

   **Screenshot: Using the Status Command to Verify Database Character Encoding**

   ```sql
   mysql> CREATE DATABASE confluence CHARACTER SET utf8 COLLATE utf8_bin;
   Query OK, 1 row affected (0.02 sec)
   mysql> show databases;
   +--------------------+
   | Database           |
   +--------------------+
   | information_schema |
   | confluence         |
   | confluencedb       |
   | mysql              |
   | test               |
   +--------------------+
   5 rows in set (0.02 sec)
   mysql> use confluence;
   Database changed
   mysql> status;
   ```

4. In some cases, the individual tables collation and character encoding may differ from the one that the database as a whole has been configured to use. Please use the command below to ensure all tables within your Confluence database are correctly configured to use UTF-8 character encoding and binary UTF-8 collation:

   ```sql
   use confluence;
   show table status;
   ```

   Check for the value listed under the **Collation** column, to ensure it has been set to utf8_bin (that is, case-sensitive) collation for all tables.

   If not, then this can be changed by the following command, executed for each table in the Confluence database:
Please substitute the `<tablename>` above, with each table within the confluence database.

Relevant MySQL manual for more detailed explanation:

- Specifying Character Sets and Collations documentation.
- Connection Character Sets and Collations.
- SHOW TABLE STATUS Syntax.
- ALTER TABLE Syntax.

**PostgreSQL**

```
CREATE DATABASE confluence WITH ENCODING 'UNICODE';
```

Or from the command-line:

```
$ createdb -E UNICODE confluence
```

For more information see the PostgreSQL documentation.

**For PostgreSQL running under Windows**

Please note that international characters sets are only fully supported and functional when using PostgreSQL 8.1 and above under Microsoft Windows.

**For PostgreSQL running under Linux**

Warning: Please make sure you check the following to ensure proper handling of international characters in your database

When PostgreSQL creates an initial database cluster, it sets certain important configuration options based on the host enviroment. The command responsible for creating the PostgreSQL environment `initdb` will check environment variables such as `LC_CTYPE` and `LC_COLLATE` (or the more general `LC_ALL`) for settings to use as database defaults related to international string handling. As such it is important to make sure that your PostgreSQL environment is configured correctly before you install Confluence.

To do this, connect to your PostgreSQL instance using `psql` and issue the following command:

```
SHOW LC_CTYPE;
```

If `LC_CTYPE` is set to either "C" or "POSIX" then certain string functions such as converting to and from upper and lower case will not work correctly with international characters. Correct settings for this value take the form `<LOCALE>.<ENCODING>` (e.g. `en_AU.UTF8`).

If your `LC_CTYPE` is incorrect please check the PostgreSQL documentation for information on configuring database localisation. It is not easy to change these settings with a database that already contains data.

**Updating existing database to UTF-8**

**MySQL database with existing data**

Warning: Before proceeding with the following changes, please backup your database.

This example shows how to change your database from latin1 to utf8.

1. Dump the database to a text file using `mysqldump` tool from the command-line:
   ```
   mysqldump -p --default-character-set=latin1 -u <username> --skip-set-charset confluence > confluence_database.sql
   ```
2. Copy `confluence_database.sql` to `confluence_utf8.sql`
3. Open `confluence_utf8.sql` in a text editor and change all character sets from 'latin1' to 'utf8'
4. Encode all the latin1 characters as UTF-8:
   ```
   recode latin1..utf8 confluence_utf8.sql
   ```

In MySQL:

```
ALTER TABLE tablename CONVERT TO CHARACTER SET utf8 COLLATE utf8_bin;
```
1. DROP DATABASE confluence;
2. CREATE DATABASE confluence CHARACTER SET utf8 COLLATE utf8_bin;

Finally, reimport the UTF-8 text file:

1. mysql -u <username> -p --default-character-set=utf8 --max_allowed_packet=64M confluence < /home/confluence/confluence_utf8.sql

To support large imports, the parameter \`--max_allowed_packet=64M\` used above sets the maximum size of an SQL statement to be very large. In some circumstances, you may need to increase it further, especially if attachments are stored in the database.

Testing database encoding

See Troubleshooting Character Encodings for a number of tests you can run to ensure your database encoding is correct.

RELATED TOPICS:

- Character encodings in Confluence
- Known Issues for MySQL

### Known Issues for DB2

**On this page:**
- DB2 Does Not Support Unicode Character By Default
- DB2 Does Not Support Transaction Logging Of BLOBs Larger Than 1GB
- Configuring Database Character Encoding
- DB2 Dialect class change (if upgrading from Confluence version 2.2 or older)
- Encoding Test Problems
- Transaction Isolation Level of Read Uncommitted
- Incompatible Data Types on z/OS
- SQLCODE: -443, SQLSTATE: 38553, SQLERRMC: SYSIBM.SQLTABLES;TABLES;SYSIBM:CLI:-805

#### DB2 Does Not Support Unicode Character By Default

To support the Unicode character set, create your database like this:

For 8.2.2 or later:

```
db2 create database <name> using codeset utf-8 territory us pagesize 8 k
```

Before 8.2.2

```
db2 create database <name> using codeset utf-8 territory us
db2 create bufferpool bp8k <number of pages> pagesize 8 k
db2 create tablespace userspace1 pagesize 8 k managed by database using \(file \'<location>\'/\number of pages\'/\) bufferpool bp8k
```

The territory may not be important when using UTF-8, but it must be included.

#### DB2 Does Not Support Transaction Logging Of BLOBs Larger Than 1GB


"With their potentially large size, LOBs can slow down the performance of your database system significantly when moved into or out of a database. Even though DB2 does not allow logging of a LOB value greater than 1 GB, LOB values with sizes approaching 1 GB can quickly push the database log to near capacity. An error, SQLCODE -355 (SQLSTATE 42993), results from attempting to log a LOB greater than 1 GB in size. The lob-options-clause in the CREATE TABLE and ALTER TABLE statements allows users to turn off logging for a particular LOB column. Although setting the option to NOT LOGGED will improve performance, changes to the LOB values after the most recent backup are lost during roll-forward recovery."

> !important
> Although one could set the length for the CustomClobType in BodyContent.hbm.xml field length to larger sizes, say 2^31 to allow storing of BLOBs up to the size of 2 Gb, DB2 maximum length can only be set to 2^30, 1GB.

```
<property name="body" type="com.atlassian.confluence.core.persistence.hibernate.CustomClobType" update="true" insert="true" column="BODY" length="1073741824" />
```

**Configuring Database Character Encoding**
Refer to Configuring Database Character Encoding.

**DB2 Dialect class change (if upgrading from Confluence version 2.2 or older)**

If you are using DB2, and are upgrading Confluence from version 2.2 or older, the 'hibernate.dialect' property in the `confluence.cfg.xml` file needs to be changed to 'com.atlassian.hibernate.dialect.DB2Dialect' like so:

```
<property name="hibernate.dialect">com.atlassian.hibernate.dialect.DB2Dialect</property>
```

**Encoding Test Problems**

At the time of writing this, there is an open bug with the encoding test when using DB2. Details are here: CONF-8588.

**Transaction Isolation Level of Read Uncommitted**

Due to CONF-9323, DB2 requires a transaction isolation level of "read uncommitted" to avoid occasional deadlocks. The more concurrent usage a Confluence instance experiences, the higher the frequency of deadlocks with a transaction isolation level higher than "read uncommitted".

Set the following property in the `confluence.cfg.xml` file.

```
<property name="hibernate.connection.isolation">1</property>
```

**Incompatible Data Types on z/OS 8**

There are problems when running DB2 on z/OS 8 and 9. This platform is not officially supported but there is an unsupported workaround here.

**SQLCODE: -443, SQLSTATE: 38553, SQLERRMC: SYSIBM.SQLTABLES;TABLES;SYSIBM:CLI:-805**

```
at com.ibm.db2.jcc.b.hh.b(hh.java:1369)
at com.ibm.db2.jcc.b.hh.c(hh.java:1356)
at com.ibm.db2.jcc.c.db.k(db.java:352)
at com.ibm.db2.jcc.c.db.e(db.java:96)
at com.ibm.db2.jcc.c.t.e(t.java:83)
at com.ibm.db2.jcc.c.sb.h(sb.java:167)
at com.ibm.db2.jcc.b.hh.q(hh.java:1329)
at com.ibm.db2.jcc.b.hh.d(hh.java:2529)
at com.ibm.db2.jcc.b.hh.V(jh.java:146)
at com.ibm.db2.jcc.b.fb.a(fb.java:7374)
at com.ibm.db2.jcc.b.fb.a(fb.java:5997)
at com.ibm.db2.jcc.b.fb.getTables(fb.java:5908)
at com.mchange.v2.c3p0.impl.NewProxyDatabaseMetaData.getTables(NewProxyDatabaseMetaData.java:2828)
at net.sf.hibernate.tool.hbm2ddl.DatabaseMetadata.getTableMetadata(DatabaseMetadata.java:54)
... 23 more
```

You might encounter this problem after an upgrade to UDB Version 8.1 FixPak 10 (also known as Version 8.2 FixPak 3) when invoking a DB2 Call Level Interface (CLI) catalog function. The solution to this is to perform a rebind of the `db2schema.bnd` file locally against each database. Refer to the IBM Technote FAQ for more instruction.

**RELATED TOPICS**

Interpreting DB2 error codes

Interpreting DB2 error codes

When DB2 dies, it'll dump its error codes out in the SQL Exception:

```
DB2 SQL error: SQLCODE: -803, SQLSTATE: 23505
```

You can find the meaning of the error code from the db2 command prompt with "? sqlxxxx" where xxxx is the SQLCODE from the error
message:

[db2inst1@matilda db2inst1]$ db2 ? sql-803

SQL0803N One or more values in the INSERT statement, UPDATE statement, or foreign key update caused by a DELETE statement are not valid because the primary key, unique constraint or unique index identified by "<index-id>" constrains table "<table-name>" from having duplicate rows for those columns.

Explanation:

The INSERT or UPDATE object table "<table-name>" is constrained by one or more UNIQUE indexes to have unique values in certain columns or groups of columns. Alternatively, a DELETE statement on a parent table caused the update of a foreign key in a...

(and so on for about three more pages of text...)

You may also like to use the SQL Message Finder to find information about iSeries SQL messages. You can search by message ID, SQLCODE, or SQLSTATE value. You can also select an SQLSTATE class code.

There is also an online reference for SQL Messages and Codes which is quite useful.

Known Issues for MySQL

On this page:

- No 'toLower' Capability - Database Case Sensitivity
- Configuring Database Character Encoding
- MySQL Storage Engine
  - Upgrading to Confluence 3.0 or later fails
- MySQL JDBC Drivers
- Access Denied
- Max Allowed Packet Size Exceeded
  - Prior MySQL 4.0, use this syntax instead:
  - From MySQL 4.0, use this syntax
- Duplicate Key Exception During Import
  - Setting the MySQL Collation to be case sensitive
- Database Timeout Issues when creating a Manual Backup
- After a while, database errors are generated and Confluence stops working
- Troubleshooting Tips

This page provides tips on configuring MySQL as Confluence's database.

**No 'toLower' Capability - Database Case Sensitivity**

Some of the database indices are not available for MySQL. See Creating a Lowercase Page Title Index for more detail on a workaround.

**Configuring Database Character Encoding**

To prevent problems with character encoding, for consistency, we recommend to use Unicode character encoding UTF-8 among all the entities of your system. See Configuring Database Character Encoding for more details.

When specifying a character encoding as part of your mysql connection url (eg: &characterEncoding=utf8), it is important to ensure that the specified encoding is compatible with the default encoding used by your database. Note: if you do not specify a characterEncoding on the connection url, the connection will default to the server's default character set.

Full details of MySQLs character support is available here: http://dev.mysql.com/doc/mysql/en/charset.html

**MySQL Storage Engine**

The default storage engine for MySQL is MyISAM. Because this storage engine does not support referential integrity, foreign key constraints or transactions, using it may lead to data corruption. Some known issues caused by using MyISAM include CONF-16070 and CONF-16494. Hence, this storage engine is not recommended for use with Confluence.

For a MySQL command line session, you can set the storage engine by passing the --default-storage-engine=INNODB option when starting the session. You can make this the default MySQL Server setting by adding this option to the my.ini (or my.cnf) configuration file.

For more information, please refer to: http://dev.mysql.com/doc/refman/5.1/en/storage-engines.html
**Upgrading to Confluence 3.0 or later fails**

Some customers running Confluence on a MySQL database may find that when they upgrade to Confluence 3.0 or later, their Confluence 3.0 upgrade fails, with the Confluence logs revealing a "Specified key was too long" error. This issue is known to occur when MySQL’s MyISAM storage engine and UTF-8 character set is used with Confluence.

If this is the case, please refer to the Upgrade to Confluence 3.0 with MySQL database fails with messages like "specified key was too long" knowledge base article on how to resolve this upgrade issue.

**MySQL JDBC Drivers**

Ensure that you are using the latest (5.1) MySQL Java Connector. Earlier versions of the MySQL connector have a bug which is triggered by improvements in Confluence 2.2. These earlier connector versions will result in an error being recorded in your logs on upgrade (and will result in unstable operation of Confluence).

You can download the latest MySQL connector from the MySQL Java Connector 5.1 download page. Please be sure that you remove any older versions of the connector from your application server.

Don't use the debug version of these drivers (the jar file ending in '-g.jar'). This requires extra configuration, see Installing the Driver and Configuring the CLASSPATH

**Access Denied**

If you get a connection error: Access denied for user 'confluenceuser'@'localhost.localdomain' to 'localhost.localdomain' in your environment. Create a user 'confluenceuser@localhost%' to match any domain starting with localhost.

**Max Allowed Packet Size Exceeded**

A common problem with MySQL is the max packet size restriction, which can result in an "Object Error" message when installing certain plugins.

If you are using MySQL 4 and prior, you may come across a problem with max_allowed_packet size.

To resolve these problems, you need to either specify or increase the value for max_allowed_packet. Make sure to set the packed size when starting the server, not the client.

**Prior MySQL 4.0, use this syntax instead:**

```
shell> mysqld --set-variable=max_allowed_packet=16M
```

In MySQL 3.23, the largest possible packet is 16MB, due to limits in the client/server protocol. In MySQL 4.0.1 and up, the limit is 1GB.

**From MySQL 4.0, use this syntax**

```
shell> mysqld --max_allowed_packet=32M
```

For more information, please refer to MySQL manual: http://dev.mysql.com/doc/refman/5.0/en/packet-too-large.html

If you use MySQL Administrator, you can set this parameter from the Startup Variables section on Windows OS (Options on MacOS) > Advanced Networking subsection. You can set max_allowed_packet option to 16 (MB), which in the screenshot below, is currently set at 1 MB.

**Screenshot: Setting the max_allowed_packet option via the MySQL Administrator**
Duplicate Key Exception During Import

When upgrading to MySQL from another database, such as HSQL, importing the site backup often fails with an error like this:

```
Duplicate key or integrity constraint violation message from server:
```

Such errors occur because usually MySQL evaluates unique key constraints and primary key constraints in a case insensitive way. So if you have a space with the key "sp" and another with the key "SP", MySQL will refuse to add the second one.

This problem is avoidable by setting the `collation` on the database to be case sensitive.

Setting the MySQL Collation to be case sensitive

MySQL uses collations for sorting data and for evaluating uniqueness.

To set the collation to case sensitive when using utf8, use this command:

```
CREATE DATABASE confluence CHARACTER SET utf8 COLLATE utf8_bin;
```

Note: The collation must be compatible with the character set. The name of the database in the example is confluence.

For further information see the MySQL documentation on character sets on collations.

Database Timeout Issues when creating a Manual Backup

A problem that some customers have encountered is their Database connection timing out whilst in the middle of performing a Manual Site Backup in Confluence.

This issue is indicated in the log files with the following Error Message:

```
com.mysql.jdbc.CommunicationsException: Communications link failure due to underlying exception:
```

According to the MySQL manual:

```
The number of seconds the server waits for activity on a non-interactive connection before closing it. This timeout applies only to TCP/IP and Unix socket file connections, not to connections made via named pipes, or shared memory.
```

```
On thread startup, the session wait_timeout value is initialized from the global wait_timeout value or from the global interactive_timeout value, depending on the type of client (as defined by the CLIENT_INTERACTIVE connect option to mysql_real_connect()). See also interactive_timeout.
```

This problem is resolved by adjusting the `wait_timeout` parameter to a higher value.

If problems persist after making the changes, switch to the Alternative Backup Strategy.

After a while, database errors are generated and Confluence stops working

MySQL's JDBC drivers usually close a connection that remains idle for a certain amount of time (normally eight hours). Since Confluence uses a connection pool, this means that pooled connections will be terminated if they are not used within a certain time period.

The solution is to append `?autoReconnect=true` to the end of your database's JDBC URL.

- If you are using JNDI data-sources, you will do this in your application server's configuration files.
If you have configured Confluence to access the database directly, you will need to manually edit the `hibernate.connection.url` property in the `confluence.cfg.xml` file in your `confluence.home` directory. After you have changed the URL in this file, restart Confluence.

**Troubleshooting Tips**

The following are tips for Troubleshooting MySQL.

- Cannot Restore XML Backup due to Data Truncation - MySQL Driver 3.1
- Setup Fails Creating MySQL Schema due to Tomcat Incompatibility
- Upgrade to Confluence 3.0 with MySQL database fails with messages like "specified key was too long"
- MySQL Table is Marked as Crashed and Should be Repaired
- Cannot Create XML Backup due to Corrupt Table
- Error loading plugins or saving content larger than 1Mb
- Login after a long inactivity on confluence fails using MySQL
- Characters appear as question marks using MySQL
- ClientAbortException java.net.SocketException Broken Pipe with Jira User management on MySQL
- Database errors when using MySQL and MyISAM tables
- Error- Invalid use of group function

**Known Issues For Oracle**

- Use Oracle with thin Oracle 10g JDBC drivers
- Running Confluence on Websphere with Oracle database
- 24-hour time format with Oracle 8i
- ORA-01430: column being added already exists in table
- Configuring Database Character Encoding
- Knowledge Base Articles

**Use Oracle with thin Oracle 10g JDBC drivers**

We recommend you to use the following configuration to run Confluence with Oracle:

- Regardless of what version of the Oracle database you are using, you should use the Oracle 10g JDBC drivers. (Note: Oracle 10g JDBC drivers will not work with Oracle 8.1.6 see Oracle FAQ)
- We highly recommend to use the thin drivers.

Also see:

**Running Confluence on Websphere with Oracle database**

If you are planning to run Confluence on a Websphere application server and Oracle database, you should read the information on Known Issues for Websphere.

**24-hour time format with Oracle 8i**

We have received a report from a user that when an Oracle 8i database is configured to use 24-hour time as the default format, an exception like this may occur:
One symptom of this problem is that Confluence may refuse to start after midday.

The workaround is to go to 'General Configuration' and set the default time format to "HH:mm".

ORA-01430: column being added already exists in table

If any of confluence tables exist in other oracle schemas in the "same database", those tables will not be created, impairing bits of Confluence functionality that depend on those table(s).

This issue has been filed in CONF-3613.

There is a work around however as found by one of our customers:

```sql
CREATE VIEW wiki_dev.all_objects AS
SELECT *
FROM sys.all_objects
WHERE owner = 'WIKI_DEV';
```

Configuring Database Character Encoding

Refer to Configuring Database Character Encoding.

Knowledge Base Articles

- [java.sql.SQLException ORA-00942 table or view does not exist (db permissions) (Confluence Knowledge Base)](Confluence Knowledge Base) Labels: confluence, inst
- [Unable to Configure Oracle Data Source in Websphere (Confluence Knowledge Base)](Confluence Knowledge Base) Labels: confluence, oracle, websphere
- [Unable to Install Oracle on Websphere due to Classloader Preferences (Confluence Knowledge Base)](Confluence Knowledge Base) Labels: oracle, websphere

RELATED TOPICS

Database Setup for Oracle

Known Issues for PostgreSQL

Database Performance Issue on PostgreSQL 7

There is an issue in versions of PostgreSQL prior to 8.0 that causes the database to do a full table scan rather than an index lookup for many of the database queries performed by Confluence. This will cause Confluence to slow significantly the more data it has stored.
While we fully support Confluence on PostgreSQL 7, we highly recommend upgrading to version 8.0 or higher for this reason.

Configuring Database Character Encoding

Refer to Configuring Database Character Encoding.

Incorrect JDBC Driver Used

If you have downloaded and used an incorrect JDBC Driver version, you will see this error when you attempt to setup the Database connection in the Setup Wizard:

```
java.lang.UnsupportedClassVersionError: Bad version number in .class file
at java.lang.ClassLoader.defineClass1(Native Method)
at java.lang.ClassLoader.defineClass(Unknown Source)
at java.security.SecureClassLoader.defineClass(Unknown Source)
at org.apache.catalina.loader.WebappClassLoader.findClassInternal(WebappClassLoader.java:1847)
at org.apache.catalina.loader.WebappClassLoader.findClass(WebappClassLoader.java:873)
at org.apache.catalina.loader.WebappClassLoader.loadClass(WebappClassLoader.java:126)
at org.apache.catalina.loader.WebappClassLoader.loadClass(WebappClassLoader.java:1205)
at java.lang.ClassLoader.loadClassInternal(Unknown Source)
at java.lang.Class.forName0(Native Method)
at java.lang.Class.forName(Unknown Source)
at com.atlassian.confluence.setup.actions.SetupStandardDatabaseAction.execute(SetupStandardDatabaseAction.java:22)
at com.opensymphony.xwork.DefaultActionInvocation.invoke(DefaultActionInvocation.java:168)
```

You will need to download the correct JDBC Driver based on your PostgreSQL Database Version and also the JDK you are using. Below is a guide to selecting the correct JDBC version from PostgreSQL's website:

Many other versions of the JDBC driver are available. This includes development versions, compatibility with older JDKs, and previous versions of the driver.

To determine JDK/JVM compatibility this following list matches up versions of the JVM with the JDBC specification implemented:

- JDK 1.1 - JDBC 1. Note that with the 8.0 release JDBC 1 support has been removed, so look to update your JDK when you update your server.
- JDK 1.2, 1.3 - JDBC 2.
- JDK 1.3 + J2EE - JDBC 2 EE. This contains additional support for javax.sql classes.
- JDK 1.4, 1.5 - JDBC 3. This contains support for SSL and javax.sql, but does not require J2EE as it has been added to the J2SE release.
- JDK 1.6 - JDBC4. Support for JDBC4 methods is limited. The driver builds, but the majority of new methods are stubbed out.

There is also a matrix on the page which lists all supported versions for the respective PostgreSQL database versions.

Download PostgreSQL JDBC Drivers

Known Issues For SQL Server

Due to numerous reported performance issues with SQL Server 2000, it is strongly recommended that you use SQL Server 2005 instead. SQL Server 2000 is not supported. Confluence with SQL Server 2005 is known to not work very well under high load environments. Please see the deadlock issues below

- Database Deadlock Issues
- Unicode Characters Not Supported By Default
- SQL Server 2005 and Case-Sensitive Schema Objects.
- Case-Sensitive Collation
  - Setting up a New Confluence Instance
  - Migrating an Existing Confluence Instance to a Different Database
- Use jTDS Driver 1.0.3 or Later for JDBC Connection - Reason 1
- Use jTDS Driver 1.0.3 or Later for JDBC Connection - Reason 2
- Configuring Database Character Encoding
- Setting up Authentication Mode of the SQL Server
- Moving from One SQL Server to Another
  - Known Issues

Database Deadlock Issues
Problem

When creating a page, you may encounter deadlocks and get the following error:

```
2008-11-11 17:01:21,355 ERROR [http-8080-Processor6] [sf.hibernate.util.JDBCExceptionReporter]
logExceptions Transaction (Process ID 55) was deadlocked on lock resources with another process
and has been chosen as the deadlock victim. Rerun the transaction.
-- url: /confluence/pages/docreatepage.action | userName: tstcreator3 | action: docreatepage
```

Reason

SQL Server is escalating row locks (in this case deleting a draft from the CONTENT table) to table locks and stopping other transactions from accessing the table.

Solution

Configure your database to use the isolation level, Read Committed with Row Versioning. You can do this by executing the following query:

```
ALTER DATABASE <database name>
SET READ_COMMITTED_SNAPSHOT ON
WITH ROLLBACK IMMEDIATE;
```

More information on SQL Server isolation levels can be found in the Microsoft documentation.

From version 2.10.x onwards, indexes will be automatically created upon performing an upgrade.

For customers using a previous version, please execute the following DDL against your confluence database:
Unicode Characters Not Supported By Default

Problem
Non-ASCII characters will not be displayed by Confluence.

Reason
The default SQL Server dialect uses column types that do not support Unicode, specifically the `char`, `varchar` and `text` column types. See CONF-4786 for details.

Solution
To add Unicode support, use the Unicode SQL Server dialect which uses `nchar`, `nvarchar` and `ntext` column types. Unicode SQL Server dialect has the downside of halving the maximum length of each column from 8000 characters to 4000, as every char is stored in two bytes.

Enable Unicode SQL Server dialect on a new setup, perform these steps prior to 'Stage 3 - Database Connection Setup' of the Database Setup For Any External Database:

1. Open the `confluence installation folder/confluence/WEB-INF/classes/database-defaults/mssql.properties` file within your Confluence installation folder. In version 2.6 onwards, this file is located in the `/confluence/WEB-INF/lib/confluence.x.x.x.jar` file. Jar files are similar to zip formats, so you may need to extract the `mssql.properties` file and place it in `confluence/WEB-INF/classes/database-defaults`. You can create the `database-defaults` directory if it does not exist.
2. Comment the line: `dialect=net.sf.hibernate.dialect.SQLServerDialect`
3. Uncomment the line: `#dialect=net.sf.hibernate.dialect.SQLServerIntlDialect`
4. Start the Confluence Setup Wizard

For existing SQL Server instances wishing to enable Unicode support:

1. From Confluence, create an XML site backup
2. From your DBA tool, create a full backup of the Confluence schema contents
3. Stop Confluence
4. Move your home directory
5. Drop all tables from the Confluence schema
6. Change the dialect to Unicode using the above instructions
7. Follow the 'Stage 3 - Database Connection Setup' of Database Setup For Any External Database to setup the connection again and import the XML backup
8. Once the Setup Wizard is complete, stop Confluence
9. Copy any customised content and plugins from your old home directory into the new home directory
10. Start Confluence

This will not restore previously stored Unicode characters.

SQL Server 2005 and Case-Sensitive Schema Objects.

A default installation of SQL Server 2005 on a Windows system configured for English will be case sensitive for schema objects. That is to say that a table called 'CONTENT' is not the same as a table called 'content'.

Confluence will not run correctly in this case. During installation of SQL Server, be sure to choose a case-insensitive schema.

Case-Sensitive Collation

'Collation' refers to a set of rules that determine how data is sorted and compared. Case sensitivity is one aspect of collation. Other aspects include sensitivity to kana (Japanese script) and to width (single- versus double-byte characters).

Case-sensitive or case-insensitive collation — how should you create your Confluence database? What about when you are migrating your existing Confluence instance from one database to another?

Setting up a New Confluence Instance

For new Confluence instances, we recommend using case-sensitive collation for your Confluence database, which is the default collation type used by many database systems. The Confluence application itself reduces all usernames into lower-case characters before they are stored in the Confluence database. Therefore, 'joebloggs', 'joebloggs', 'JoeBloggs', etc. will be treated as the same username on a Confluence installation with case-sensitive database collation.

Migrating an Existing Confluence Instance to a Different Database

The default Confluence Standalone configuration uses case-sensitive database collation. This is often the case with databases on several other systems which were created under default conditions. Therefore, if you are migrating from this type of configuration to a new database, we recommend that the new database uses case-sensitive collation. If you use case-insensitive collation, you may encounter data integrity problems after migration (for example, via an XML import) if data stored within your original Confluence site required case-sensitive distinctions.
Information on different collation options in SQL Server 2005 can be found in the Microsoft documentation.

**Use jTDS Driver 1.0.3 or Later for JDBC Connection - Reason 1**

**Problem**

When using jTDS driver 1.0.2 or earlier, Confluence may freeze when performing certain functions, and you see a warning like the one displayed below:

```
[ERROR] ActionSupport - \An error occurred while storing the requested page!\n<org.springframework.jdbc.UncategorizedSQLException: (Hibernate operation): encountered SQLException
\[The amount of data read from the stream is not = length.\]; nested exception is java.sql.SQLException: The amount of data read from the stream is not = length.>
```

This can occur with jTDS driver 1.0.2 but is fixed in 1.0.3 - see the jTDS homepage. It will prevent backups from succeeding and lock access to the database when viewing certain pages.

**Solution**

Upgrade to jTDS driver 1.0.3 or later from the jTDS download page.

**Use jTDS Driver 1.0.3 or Later for JDBC Connection - Reason 2**

**Problem**

When using MS SQL Server without the jTDS drivers, you may receive an error similar to:

```
Caused by: java.sql.SQLException: [Microsoft]\[SQLServer 2000 Driver for JDBC\]ResultSet can not re-read row data for column 2.
```

We use a component in Confluence called Hibernate. According to Hibernate Documentation there may be issues with the Microsoft JDBC drivers resulting in the error you are seeing.

**Solution**

Upgrade to jTDS driver 1.0.3 or later from the jTDS download page. You may also consider alternative SQL Server drivers listed on the Hibernate page.

**Configuring Database Character Encoding**

When creating the database schema, the database character encoding must be compatible with the application and Confluence character encoding as described in Configuring Database Character Encoding. If setting MS SQL to use UTF-8 is not an option, you can create a schema that uses UCS-2 encoding, and have the application and Confluence use UTF-8 encoding.

**Setting up Authentication Mode of the SQL Server**

During a login process to SQL server or while setting up your DB connection through the Setup Wizard, the following error may appear:
Login failed for user 'username'. The user is not associated with a trusted SQL Server connection. (Microsoft SQL Server, Error: 18453).

The cause of this error is that the SQL server has been configured to operate in 'Windows Authentication Mode (Windows Authentication)' and doesn't allow the use of SQL accounts.

In order to resolve this problem, change the Authentication Mode of the SQL server from 'Windows Authentication Mode (Windows Authentication)' to 'Mixed Mode (Windows Authentication and SQL Server Authentication)'.

Please refer to this Microsoft document for more details.

**Moving from One SQL Server to Another**

In Confluence, tables are created using the database login name for the schema instead of the dbo owner. Thus when moving data from one SQL server to another, you need to ensure that you create the database user first before exporting and importing the data, otherwise that user cannot be created.

To illustrate with an example, say the Confluence database login was 'confuser' — the table names would be 'confuser.table1', 'confuser.table2', etc.

When performing a database backup and restore into the new server, the tables will still be 'confuser.table1' and 'confuser.table2'. However, if the database user 'confuser' has not been created first on the new server then you can no longer access the tables with a login of 'confuser', because although the database was copied across, the login object was not. You cannot create the login with the same name at this stage as it will complain that there is already an object in the database with the same name (the user object).

**Known Issues**

- Database Deadlock on Microsoft SQL Server
- Invalid Username or Password when Delegating User Management to use JIRA Logins
- Invalid object name hibernate_unique_key due to Invalid Table Name
- Unicode Characters Not Supported By Default
- Use jTDS Driver 1.0.3 or Later for JDBC Connection

**Known Issues for Sybase Database**

*Find below a list of tips relating to using Sybase with Confluence*

Confluence and JIRA shared user base management fails due to wrong casing of database columns and names.

- See Override properties in JIRA to Confluence Bridge

**Configuring Database Character Encoding**

Refer to Configuring Database Character Encoding

**Case sensitivity issues**

All versions of Confluence 2.3 require a patch in order to work with Sybase. This is downloadable from http://jira.atlassian.com/browse/CONF-7925.

**Improving Database Performance**

**Diagnosis**

Use native database tools to assess the impact of your database. If you’d like to check what Confluence is doing from it’s side, you can enable sql loggin. If you analyze thread dumps, as this is done in general Troubleshooting Confluence Hanging or Crashing guide, you may find the kinds of threads like this:
These threads are waiting for a database connection. It could be that the database is not performing optimally, or it may just need tuning for allowing more connection threads. Both are discussed below.

**Upgrade your Database and Drivers**

SQL Server 2000, Oracle 9i, and MySQL with 3.1 drivers are among some of the issues with database performance. Ensure you are using updated versions of databases and their drivers.

**Ensure you have the Latest Database Indices**

Confluence has improved database performance over time. You'll want to make sure you have all the latest, if you're getting hung threads waiting for db connections.

**Confluence 2.10 or Manual .ddl Indices**

With 2.10 and later, Confluence includes database indices bundled. Confluence 2.10 automatically creates the necessary database indexes when you upgrade. If you are not on 2.10, you may have run the ddl manually during the upgrade process. To check, you can look against these.

**Additional Indices not Included in 2.10**

- One import db index is the **lower case page title index**. Prior to Confluence 3.0, querying for a page by title and space key can take a long time due to table scans necessary on a lowercase where clause. On most databases it is possible to add a lowercase index on these columns that helps with performance. See [Creating a Lowercase Page Title Index](#) for instructions on how to do this. Prior to 2.10, apply lowercase title indexes (all Confluence versions).
- The compound database title index for the ATTACHMENTDATA table is described in [CONF-13819](#).
- A composite index on some of the columns in SpacePermissions table is described in [CONF-14488](#).

**Tuning the Database Connection Pool**

This is described in the knowledge base article [Confluence Slows and Times out During Periods of High Load due to DB Connection Pool](#).

**Configure a Database Query Timeout**

If a database is getting overloaded, you can prevent it from crashing Confluence by [Configuring a Database Query Timeout](#).

**Related Articles**

Troubleshooting Database Issues.

**Creating a Lowercase Page Title Index**

**Diagnosis**

Confluence sometimes has performance problems retrieving pages by title because the query uses the lower() function. For example, the query looks something like this:

```
select * from CONTENT where lower(TITLE) = :title and SPACEID = :spaceid
```

Database profiling might show a query like the following taking a long time to execute (emphasis added):

```
select ... from CONTENT page0_, SPACES space1_
where page0_.CONTENTTYPE='PAGE'
and ((lower(space1_.SPACEKEY)= @P0 and page0_.SPACEID=space1_.SPACEID)
and(lower(page0_.TITLE)= @P1 )
and(page0_.PREVVER is null )and(page0_.CONTENT_STATUS='current')
```

Typically, databases don't use indexes when you use a function in a where clause; they do a table scan instead. This makes the performance of this query not ideal ([CONF-11577](#)).

**Generic solution**


On many databases (e.g. Oracle, PostgreSQL, DB2 for z/OS), it is possible to create the index using the normal "create index" syntax, just using the function instead of the column name.

```
create index CONFTITLE_LOWER on CONTENT(lower(TITLE));
```

Sources:
- http://www.postgresql.org/docs/current/static/sql-createindex.html
- http://asktom.oracle.com/tkyte/article1/

**SQL Server**

On SQL Server, you can add a computed column to the database table and then add an index on this column.

```
alter table CONTENT add TITLE_LOWER as lower(TITLE);
create index CONFTITLE_LOWER on CONTENT(TITLE_LOWER);
```

Sources:

**MySQL**

It is not currently possible to create a lowercase index on MySQL. Confluence 3.0 includes some caching improvements which should alleviate this performance problem on this database.

Source:

Workaround for MySQL databases, using a case-insensitive collation:

Please check whether your MySQL database has been set to use case-sensitive or case-insensitive collation. The queries to check whether your database is set to case-insensitive collation are:

```
show full columns from content where field = 'title';
show full columns from spaces where field = 'spacekey';
```

If the `collation_name` is returned as `<encoding>_ci ci`, the `ci` indicates case-insensitive collation.

If the database has been set to use case-insensitive collation, you can try removing `lower` from the following queries, in your `ContentEntityObject.hbm.xml` file residing in your `<Confluence-Install>/confluence/WEB-INF/lib/confluence-2.x.x.jar/com/atlassian/confluence/core/`:

```
<query name="confluence.page_findLatestBySpaceKeyTitle"> <![CDATA[
from Page page
where lower(page.space.key) = :spaceKey and
lower(page.title) = :pageTitle and
page.originalVersion is null and
page.contentStatus = 'current'
]]> </query>

<query name="confluence.page_findLatestBySpaceKeyTitleOptimisedForComments"> <![CDATA[
from Page page
left join fetch page.comments as theComments
left join fetch theComments.children
where lower(page.space.key) = :spaceKey and
lower(page.title) = :pageTitle and
page.originalVersion is null and
page.contentStatus = 'current'
]]> </query>
```

**DB2 for Linux, Unix or Windows**

DB2 supports indexes on generated columns which are used for queries with a matching predicate. You can implement it like this:

```
ALTER TABLE CONTENT ADD COLUMN TITLE_LOWER GENERATED ALWAYS AS (LOWER(TITLE));
CREATE INDEX CONFTITLE_LOWER ON CONTENT(TITLE_LOWER)
```

Related pages
- Improving Database Performance
Troubleshooting External Database Connections

The Atlassian Database Check Utility

A common administration issue when configuring Confluence is identifying database connectivity problems. The helper JSP can isolate database connectivity issues. It simply checks whether you can connect to a database with your application server. If your application server cannot connect to the database, Confluence certainly will not.

Purpose:

- Check that your application server can successfully query your database (either via immediate JDBC connectivity or a Datasource in the context of your application server).
- Pinpoint problems in your configuration which may occur if the above is failing.

Functionality:

- Check that a JDBC Driver can be loaded into memory and view what is already loaded.
- Connect to a JDBC URL and do a 'select 1' from the database.
- Find a DataSource in the JNDI environment and do the above.
- View the System classpath (to ensure that the JDBC jar file is there).

Using the Utility

If you have already setup Confluence completely

1. Download testdatabase.jsp to 'MY-CONF-INSTALL-PATH/confluence'
2. Restart Confluence
4. Check that your database driver is loaded into memory. If not, check the system classpath for the JDBC driver file, and that the driver is in the <confluence-install>/lib folder (for Confluence version 2.10 onwards) or <confluence-install>/common/lib (for earlier versions) as per these instructions.
5. Enter the DB settings Confluence is using and test the database. If an error appears, check that the db service is running, the location matches, and that any users specified actually exist with the right login and permissions. You may be able to find a workaround by googling the error.

If you cannot setup Confluence because of an error in 'Configuring Database'

1. Record the DB settings you are using for your direct JDBC or datasource connection in the 'Configure Database' step of your setup
2. Download testdatabase.jsp to 'MY-CONF-INSTALL-PATH/confluence'
3. Rename 'MY-CONF-INSTALL-PATH/confluence/WEB-INF/web.xml' to 'backup web.xml' (This disables redirection)
4. Restart Confluence
5. Go to http://MY-CONF-SERVER:MY-CONF-PORT/testdatabase.jsp
6. Check that your database driver is loaded into memory. If not, check the system classpath for the JDBC driver file, and that the driver is in the confluence-install/common/lib folder as per the instructions
7. Enter the DB settings you recorded and test the database. If an error appears, check that the db service is running, the location matches, and that any users specified actually exist with the right login and permissions. You may be able to find a workaround by googling the error.
8. After correcting the error, rename 'MY-CONF-INSTALL-PATH/confluence/WEB-INF/backup web.xml' back to 'web.xml'

Notes

This JSP is bundled in Confluence 1.2.4 and onwards. It can be used with earlier versions quite easily. If you use this utility, please let us know ways in which we could improve it or leave helpful hints for others here.

For a comprehensive set of database manual that might be helpful for troubleshooting, please refer to the following links:

- PostgreSQL
- MySQL

Request Technical Support

If you're still stuck after attempting the suggestions above, lodge a free technical support request with information on your database setup.
Configuring database query timeout

If database queries are taking too long to perform, and your application is becoming unresponsive, you can configure a timeout for database queries. There is no default timeout in Confluence.

To configure a database query timeout, do the following on your test server:

1. Shut down Confluence.

2. Extract `databaseSubsystemContext.xml` from the `confluence-x.x.x.jar` that is in `confluence/WEB-INF/lib/`, and put a copy in `confluence/WEB-INF/classes/`.

3. Edit `confluence/WEB-INF/classes/databaseSubsystemContext.xml` to add the `defaultTimeout` property to the `transactionManager` bean:

   ```xml
   <bean id="transactionManager" class="org.springframework.orm.hibernate.HibernateTransactionManager">
       <property name="sessionFactory">
           <ref bean="sessionFactory"/>
       </property>
       <property name="defaultTimeout" value="120"/>
   </bean>
   ```

The timeout is measured in seconds and will forcibly abort queries that take longer than this. In some cases, these errors are not handled gracefully by Confluence and will result in the user seeing the Confluence error page.

4. Start Confluence.

Once the timeout is working properly in your test environment, migration the configuration change to Confluence.

⚠️ You will need to reapply these changes when upgrading Confluence, as the original `databaseSubsystemContext.xml` file changes from version to version.

Troubleshooting the Embedded Database (hSQL DB)

java.sql.SQLException: User not found: SA

Also see http://hsqldb.sourceforge.net/doc/guide/ch01.html#N101C2.

HSQLDB periodically must update its files to represent changes made in the database. In doing so, it must delete the current `confluencedb.data` file on the filesystem (beneath `conf.home/database`) and replace it with a new one.

If an administrator issues a shutdown on Confluence in this period, data can be lost, and is typically noticed by the error message, when starting Confluence up again, of 'User not found: SA'.

Users encountering this problem should seek to restore backups, contained in the backup directory beneath `confluence.home`. If daily backups have been turned off, and no other copy of data remains, the data is lost.

.annotatorNote

HSQLDB should not be used as a production database. It is included for evaluation purposes only.

Hibernate logging

It can be useful to enable detailed Hibernate logging when debugging problems with HSQL.

Connecting to the Embedded Database

Connecting to the Embedded HSQL Database can be quite difficult. You may need to connect to the database to retrieve information, or for troubleshooting purposes.

Please follow the instructions on how to you can connect to the embedded HSQL Database using the free Database Administration Tool DBVisualizer.

Connecting to HSQLDB using DBVisualizer

The purpose of this guide is to walk you through connecting to Confluence's embedded Hypersonic SQL Database using the Database Administration tool DBVisualizer.

Below are step by step instructions on how to Configure DBVisualizer and connect it to HSQLDB.

Prerequisites

1. Download and install the latest copy of DBVisualizer.
2. You will also need to download a copy (preferably the latest version) of HSQLDB
3. Extract the contents of the HSQLDB archive
4. Ensure that Confluence is not running.

Connection Procedure

Please ensure that you read and follow the instructions below carefully.

⚠️ Remember to backup your <confluence-home>/database folder before attempting any modifications

1. Enter Connection Name

   1. Click on the icon highlighted in Red
   2. Enter an identifiable name for the connection. e.g. conf2.5.4-std

2. Select JDBC Driver

   Select Database Driver

   - HSQLDB embedded

   Select the appropriate database driver from the list above.

   The selected driver has not been properly configured yet. Press Load Driver Files button to open a file chooser in which you should select the driver file(s). If multiple files must be loaded then hold CTRL and select all of them at once. Driver files are normally packaged as JAR or ZIP files. In addition you can load a directory with driver classes.

   1. From the drop down list select HSQLDB Embedded
   2. Click on Load Driver Files
   3. Browse to directory where the HSQLDB.jar file is located

3. Select Database Path
1. Browse to your `<Confluence-Home>` directory
2. Open the Database folder
3. Select the `confluencedb.properties` file

4. Enter Connection Details

1. Remove the ".properties" from the end of `confluencedb`
2. Type in `sa` for the username
3. Leave the password field blank

*refer to the example screenshot above if you are unsure*

5. Connect to embedded Database

1. Click on Test Connection to verify that the details are correct.
2. Click on "Finish" to complete the setup
3. Select the connection from the list on the left hand side.
4. You can now click on "Connect" to connect to the embedded database.
HSQldb database manager

Alternatively, you can use HSQldb's database manager. Just copy the value of hibernate.connection.url in confluence.cfg.xml as the URL and you're good to go.

Related Topics

Universal SQL client Squirrel
HSQL
Enable Hibernate Logging
Database Tables Reference
Confluence data model

Database Tables Reference

Below is a diagram of the Table References in Confluence (2.5.4).

This may be useful for Database Administrators that need to manually create the Database tables.

Upgrading From HSQL 1.7.1 to 1.8

If you have received an error message while upgrading Confluence which said "HSQldb Database needs to be cleaned. Please run HSQL17To18PreUpgradeCleaner.", and referred you to this page, you need to do the following:

1. Shut down Confluence
2. Open a command window.
3. Change your directory to the directory you set as your confluence.home directory.
4. Execute the following command: java -jar <confluence install directory>/hsqlcleaner/hsqlcleaner.jar
5. Start Confluence -- the upgrade will now work.

Don't run this unless asked to by Confluence - it won't work

Guide to using Apache Tomcat's Virtual Hosts

Introduction

Sometimes it is necessary to have Tomcat serve different applications on the same context path, but different host names. Most commonly, this is when trying to use a simple mod_proxy configuration with Apache.

Tomcat configuration

Tomcat allows name-based virtual hosting, where the hostname of the request determines which application processes it. The following configuration shows how two virtual hosts can be configured for Jira and Confluence on the same Tomcat instance:

| Confluence application server URL | http://confluence-app-server.internal.example.com:8080/ |
| JIRA application server URL      | http://jira-app-server.internal.example.com:8080/ |

Below is a minimal configuration of Tomcat's server.xml which configures separate hosts for Jira and Confluence on the URLs above.
Points to note:

- the HTTP connector is accessible on port 8080, as per the URLs above
- the AJP connector is not included in this minimal configuration. If you want to use mod_jk with this configuration, you need to ensure you add it.
- in the Engine, the Confluence host is configured as the default host. The default host is used if the request doesn't contain a Host header, or is accessed by a name the server doesn't recognise.
- because the above configuration uses name-based virtual hosting, you need to have entries in your DNS server for "confluence-app-server" and "jira-app-server" that point to the application server

More information

After doing this, you can configure Apache virtual hosts to map subdomains like jira.example.com and confluence.example.com to your application.

How to dump Active Directory data to a file

You can extract all the data present in your Active Directory onto a file using the following command (please ensure you are logged in with sufficient rights to do this)

```
csvde -f test.csv
```

This command will perform a CSV dump of every entry in your Active Directory server. You should be able to see the full DN's of users and groups.

Known Issues with Enterprise or Webhosting environments

When you attempt to run Confluence, you may get the following error:

```java
java.security.AccessControlException: access denied (java.lang.RuntimePermission
accessDeclaredMembers)
    at java.security.AccessControlContext.checkPermission(AccessControlContext.java(Compiled Code))
    at java.security.AccessController.checkPermission(AccessController.java(Compiled Code))
    at java.lang.SecurityManager.checkPermission(SecurityManager.java(Compiled Code))
```

Some of the libraries Confluence relies on to function make use of features of the Java language that may be restricted by Java security policies. This does not normally cause any problems: the default security configuration of most application servers will happily run Confluence. However, in some shared-hosting or enterprise environments, security settings may be such that Confluence can not function.

The permissions required by Confluence to run are detailed in the sample policy file below. You may need to give this information to your systems administrator so that they can be deployed with the Confluence application.
Managing Application Server Memory Settings

The minimum and maximum JVM heap space allocated to the application server affects performance. Confluence administrators may wish to modify this value from the defaults depending on their server load. This document only provides guidelines rather than rules, so administrators optimising for performance should use this document as a starting point only.

Testing For Optimum Memory Settings

Bigger is not always better for heap size. When optimising memory settings, consider starting by setting the minimum heap size to 1/4 the available physical memory on the server and setting the maximum to 1/2 of the maximum heap. Avoid setting the minimum and maximum to be the same since server load is normally variable. Being able to use less memory under low load results in slightly improved performance as garbage collections can be made smaller.

Testing Resources

- Enable the `verbosegc` JVM parameter to assist in determining the memory size that minimises overall garbage collection
- Use Page Request Profiling to gauge end-user performance

Determine Minimum Memory

Experiment with setting a lower minimum such as 1/10 of the maximum heap. Identify how much memory is required while under minimum load and set the minimum to that value. It is important to have Confluence use the minimum memory necessary, because garbage collection performance is dependent on the memory usage. Having an unnecessarily high minimum memory setting will degrade performance during GC operations.

Determine Maximum Memory

Experiment with different maximum memory settings with the `verbosegc` JVM parameter enabled to determine GC performance. Memory usage is most likely to be maximised under peak load, and when creating a site XML backup, Atlassian recommends disabling the XML backup and using the Alternative Backup Strategy.

- If you normally perform manual XML site backups on your server, test your maximum memory requirements by performing a site XML backup while the server is under maximum load
- If you do not create manual XML site backups, simply monitor the server while under maximum load

The maximum memory should be the total memory while in this state plus a buffer of at least 15%, taking into account how your garbage collection performs. Never set maximum memory to a value above 85-90% of the available physical server memory as this results in disk paging. Always leave 10-15% of available physical server memory unallocated to allow for OS background processes.

Applying Memory Settings

Users of the EAR/WAR distribution set their memory in their application server. For Confluence Standalone, the heap space is set in the Confluence install directory.

- Windows users edit `TOMCAT_HOME/bin/setenv.bat`
- Other OS users edit `TOMCAT_HOME/bin/setenv.sh`

If you are running Tomcat as a Windows service, you may need to run a `regedt32` to increase memory as in the article on increasing JIRA memory. Although the article discusses JIRA, it should also be applicable to Confluence.

The relevant parameter is

```
JAVA_OPTS="-Xms256m -Xmx1024m"
```

Where `-Xms` is the minimum and `-Xmx` is the maximum memory available to Apache Tomcat. In this sample the maximum memory has been set to 1024 megabytes, but you will have to figure out the best setting based on your particular environment.

Note: In newer Tomcat distributions the file may not exist. Feel free to create it in the `/bin` directory.

Additional Suggestions

- ```
grant codeBase "file:${catalina.home}/webapps/confluence/-" {
    permission java.security.AllPermission;
};
grant {
    permission java.lang.RuntimePermission "accessDeclaredMembers";
    permission java.lang.reflect.ReflectPermission "suppressAccessChecks";
    permission java.lang.RuntimePermission "defineCGLIBClassInJavaPackage";
};
```
Upgrade to Java 6
Java 6 has some better reporting when it comes to memory management, also Java 5 is almost out of life for Sun as Java 6 has been out for quite some time (over 2 years!). If upgrading to 6 is not an option, upgrading to a more recent Java 5 is highly recommended, there is an Java 5 update 15 (they are running a BETA of update 8).

Tune the garbage collector
There is a very overly complicated document on tuning the garbage collector on Java 6 (Java 5 version). This document will probably be a bit overwhelming, the only thing that really could be experimented with is selecting a different collector as the default one can cause system pauses while it finds collectible memory.

Make memory sizes equal
If you set the initial memory allocation size (-Xms) and the max memory allocation size (-Xmx) the same you can reduce overhead in the JVM because it doesn't need to resize the memory. This doesn't always result in performance improvements though.

PermGen Memory
The Permanent Generation Size -XX:MaxPermSize=128m could be increased but only really needs to be if they experience OutOfMemoryErrors which are reported to be PermGen full errors. 128m does seem a little low for this, especially on a 64bit JVM, but increasing it won't directly affect performance (just stopping a crash when it fills up).

Stack Size
Setting the stack size (-Xss) is ok, but can result in the JVM requiring more memory. Decrease it if you are running out of heap.

Related Topics
- Fix Out of Memory errors by Increasing Available Memory
- Server Hardware Requirements Guide
- Performance Tuning
- Troubleshooting Slow Performance Using Page Request Profiling
- Tomcat JVM options and Modify the Default JVM Settings
- Websphere- Tuning JVM

Pull down RSS Feeds or use the Repository plugin through a web proxy
You will need to make Confluence aware of your proxy.

Running Confluence behind Apache

Introduction
Running Confluence behind a web server should be done for performance reasons in high-load environments. In general, web server caching and thread management is far superior to that provided by your application server's HTTP interface.

To run Confluence behind the Apache httpd web server, there are two main configuration options: mod_jk or mod_proxy.

<table>
<thead>
<tr>
<th>Connection type</th>
<th>Features</th>
</tr>
</thead>
</table>
| mod_proxy (also known as reverse proxy) | • recommended connection method  
• simple HTTP proxy to application server  
• works with all application servers  
• if application paths are consistent, there is minimal load on the web server |
| mod_jk (also known as AJP) | • uses the AJP binary protocol  
• provides failover (and load balancing, which Confluence supports only with a clustered license)  
• only works with some application servers (typically Tomcat)  
• if application paths are consistent, there is some load on the web server to translate requests to AJP |

Features common to both mod_proxy and mod_jk
- application paths must be consistent to avoid complex and slow URL rewriting  
- works with name-based virtual hosting, both on web server and app server  
- web server keeps a pool of connections to application server

Mod_proxy documentation
- Using Apache with mod_proxy is the main documentation for this configuration.
If you want to set up the common configuration of JIRA and Confluence virtual hosts, you can use Apache's virtual hosts with separate application servers, then Tomcat's virtual hosts to run both applications on a single instance of Tomcat.

**Mod_jk documentation**

- Using Apache with mod_jk is the main documentation for this configuration.
- You can follow a similar method to the mod_proxy documentation above for setting up virtual hosts in Apache and Tomcat, if required.

**Mod_jk2 not supported**

The misleadingly-named mod_jk2 is an older method of connecting to Tomcat from Apache. Since mod_jk2 is no longer supported by the Apache Foundation, we do not support this configuration, and are not updating our mod_jk2 documentation. Mod_jk2 also has unresolved problems with Unicode URLs; you need to use either mod_proxy or mod_jk for international characters to work correctly in Confluence.

**Other related documentation**

- Apache and Apache Connector Tips
- Using the (older) mod_jk2 connector
- Configuring Tomcat's URI encoding
- Adding SSL for Secure Logins and Page Security

**General Apache Configuration Notes**

On this page:

- Prefer Apache mod_deflate to Confluence's built-in gzip implementation
- Ensure keepalive is enabled
- Enable keepalive for recent MSIE user agents

**Prefer Apache mod_deflate to Confluence’s built-in gzip implementation**

1. Disable gzip in confluence. See Compressing an HTTP Response within Confluence.
2. Enable gzip compression in Apache. For RedHat distributions this can be achieved by adding the following lines:

```
AddOutputFilterByType DEFLATE text/html text/plain text/xml text/css application/x-javascript
#
# ensure sensible defaults
DeflateBufferSize 8192
DeflateCompressLevel 4
DeflateMemLevel 9
DeflateWindowSize 15
```

**Ensure keepalive is enabled**

```
KeepAlive On
```

**Enable keepalive for recent MSIE user agents**

The standard Apache SSL configuration is very conservative when it comes to MSIE and SSL. By default all keepalives are disabled when using HTTPS with MSIE. While MSIE will always be special, the issues with SSL and MSIE have been solved since Service Pack 2 for Windows XP, released over 4 years ago. For anyone using an XP machine below SP2, it is safe to allow keepalive for MSIE 6 and above.

Remove the following lines:

```
SetEnvIf User-Agent ".*MSIE.*" nokeepalive ssl-unclean-shutdown
BrowserMatch "MSIE [1-4]" nokeepalive ssl-unclean-shutdown
```

Add these in their place:

```
BrowserMatch "MSIE [1-4]" nokeepalive ssl-unclean-shutdown downgrade-1.0 force-response-1.0
BrowserMatch "MSIE [5-9]" ssl-unclean-shutdown
```

**RELATED TOPICS**

Running Confluence behind Apache
Using Apache with mod_jk

Introduction

The Apache web server is often used in front of an application server to improve performance in high-load environments. Mod_jk allows request forwarding to an application via a protocol called AJP. Configuration of this involves enabling mod_jk in Apache, configuring a AJP connector in your application server, and directing Apache to forward certain paths to the application server via mod_jk.

Mod_jk is sometimes preferred to mod_proxy because AJP is a binary protocol, and because some site administrators are more familiar with it than with mod_proxy.

The scope of this documentation is limited to configuring the AJP connector in Tomcat 5.x. Other application servers may support AJP connectors; please consult your application server documentation for instructions on how to configure it.

The configuration below assumes your Confluence instance is accessible on the same path on the application server and the web server. For example:

<table>
<thead>
<tr>
<th>Externally accessible (web server) URL</th>
<th><a href="http://www.example.com/confluence/">http://www.example.com/confluence/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application server URL (HTTP)</td>
<td><a href="http://app-server.internal.example.com:8080/confluence/">http://app-server.internal.example.com:8080/confluence/</a></td>
</tr>
</tbody>
</table>

The AJP connection of the application server is set to: app-server.internal.example.com:8009.

Configuring mod_jk in Apache

The standard distribution of Apache does not include mod_jk. You need to download it from the JK homepage and put the mod_jk.so file in your Apache modules directory.

```
# Put this after the other LoadModule directives
LoadModule jk_module modules/mod_jk.so

# Put this in the main section of your configuration (or desired virtual host, if using Apache virtual hosts)
JkWorkersFile conf/workers.properties
JkLogFile logs/mod_jk.log
JkLogLevel info
JkMount /confluence worker1
JkMount /confluence/* worker1
```

Configuring workers.properties

Create a new file called 'workers.properties', and put it in your Apache conf directory. (The path for workers.properties was one of the configuration settings above.)

```
worker.list=worker1
worker.worker1.host=app-server.internal.example.com
worker.worker1.port=8009
worker.worker1.type=ajp13
```

Tomcat 5.x configuration

In Tomcat 5, the AJP connector is enabled by default on port 8009. An absolutely minimal Tomcat server.xml is below for comparison. The relevant line is the Connector with port 8009 – make sure this is uncommented in your server.xml.
Points to note:

- the Connector on port 8009 has protocol of "AJP/1.3". This is critical.
- the Context path of the Confluence application is "/confluence". This must match the path used to access Confluence on the web server.
- we recommend keeping your application Contexts outside the server.xml in Tomcat 5.x. The above example includes them for demonstration only.

**Improving the performance of the mod_jk connector**

The most important setting in high-load environments is the number of processor threads used by the Tomcat AJP connector. By default, this is 200, but you should increase it to match Apache's maxThreads setting (256 by default):

```
<Connector port="8009" minSpareThreads="5" maxThreads="256" protocol="AJP/1.3" />
```

All the configuration parameters for the AJP connector are covered in the Tomcat documentation.

**Ensuring UTF-8 compatibility**

If you have problems downloading attachments with non-ASCII characters in the filename, add the following to your Apache configuration:

```
JkOptions +ForwardURICompatUnparsed
```

And specify UTF-8 as the URIEncoding in the AJP connector configuration:

```
<Connector port="8009" protocol="AJP/1.3" URIEncoding="UTF-8" />
```

These settings are discussed further on Configuring Tomcat's URI encoding.

**More information**

The [Tomcat JK website](http://tomcat.apache.org-doc) has complete documentation on workers.properties and Apache configuration. You can also find information there on how to use mod_jk with IIS.

**Alternatives**

If you’re not happy with mod_jk, or find it too difficult to configure, you can:

- use [mod_proxy](http://httpd.apache.org/docs/2.2/mod/mod_proxy.html), which works with any application server, and together with mod_proxy_html allows complex URL rewriting to deal with different application paths on the web server and the application server.

**Using Apache with mod_proxy**

This page describes how to integrate Confluence into an Apache website, using mod_proxy. There are some common situations where you might do this:

- You have an existing Apache-based website, and want to add Confluence to the mix (eg. [http://www.example.com/confluence](http://www.example.com/confluence)).
- You have two or more Java applications, each running in their own application server on different ports, eg. [http://localhost:8080/confluence](http://localhost:8080/confluence) and [http://localhost:8081/jira](http://localhost:8081/jira). By setting up Apache with mod_proxy, you can have both available on the regular HTTP port (80), eg. at [http://www.example.com/confluence](http://www.example.com/confluence) and [http://www.example.com/jira](http://www.example.com/jira). If you are running JIRA and Confluence, we recommend this setup. It allows each app to be restarted, managed and debugged separately.
This page describes how to configure mod_proxy. We describe two options:

- If you want a URL like http://www.example.com/confluence/, go to the simple configuration.
- If you want a URL like http://confluence.example.com/, go to the complex configuration.

Simple configuration

Set the context path

First, set your Confluence application path (the part after hostname and port) correctly. Say you want Confluence available at http://www.example.com/confluence/, and you currently have it running at http://localhost:8080/. The first step is to get Confluence available at http://localhost:8080/confluence/.

To do this in Tomcat (bundled with Confluence), edit conf/server.xml, locate the "Context" definition:

```
<Context path="" docBase="../confluence" debug="0" reloadable="true"/>
```

and change it to:

```
<Context path="/confluence" docBase="../confluence" debug="0" reloadable="true"/>
```

Then restart Confluence, and ensure you can access it at http://localhost:8080/confluence/

Configure mod_proxy

Now enable mod_proxy in Apache, and proxy requests to the application server by adding the example below to your Apache httpd.conf (note: the files may be different on your system; the JIRA docs describe the process for Ubuntu/Debian layout):

```
# Put this after the other LoadModule directives
LoadModule proxy_module /usr/lib/apache2/modules/mod_proxy.so
LoadModule proxy_http_module /usr/lib/apache2/modules/mod_proxy_http.so

# Put this in the main section of your configuration (or desired virtual host, if using Apache virtual hosts)
ProxyRequests Off
ProxyPreserveHost On

<Proxy */>
    Order deny,allow
    Allow from all
</Proxy>

ProxyPass /confluence http://localhost:8080/confluence
ProxyPassReverse /confluence http://localhost:8080/confluence
<Location /confluence>
    Order allow,deny
    Allow from all
</Location>
```

Note to Windows Users

It is recommended that you specify the absolute path to the mod_proxy.so and mod_proxy_http.so files.

Set the URL for redirection

You will need to modify the server.xml file in your tomcat's conf directory and set the URL for redirection.

Locate this code segment

```
<Connector port="8080" maxHttpHeaderSize="8192"
    maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
    enableLookups="false" redirectPort="8443" acceptCount="100"
    connectionTimeout="20000" disableUploadTimeout="true"/>
```

And append the following segment:
Replace www.example.com with the URL you wish to be redirected to.

Complex configuration

A complex configuration involves using the mod_proxy_html filter to modify the proxied content en-route. This is required if the Confluence path differs between Apache and the application server. For example:

<table>
<thead>
<tr>
<th>Externally accessible (Apache) URL</th>
<th><a href="http://confluence.example.com/">http://confluence.example.com/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application server URL</td>
<td><a href="http://app-server.internal.example.com:8080/confluence/">http://app-server.internal.example.com:8080/confluence/</a></td>
</tr>
</tbody>
</table>

Notice that the application path in the URL is different in each. On Apache, the path is /, and on the application server the path is /confluence.

For this configuration, you need to install the mod_proxy_html module, which is not included in the standard Apache distribution. Alternative solutions are discussed below.

The ProxyHTMLURLMap configuration can become more complex if you have multiple applications running under this configuration. The mapping should also be placed in a Location block if the web server URL is a subdirectory and not on a virtual host. The Apache Week tutorial has more information how to do this.

More information

- The mod_proxy_html site has documentation and examples on the use of this module in the complex configuration.
- Apache Week has a tutorial that deals with a complex situation involving two applications and ProxyHTMLURLMap.
- Using Apache with virtual hosts and mod_proxy shows how to configure the special case where you want JIRA and Confluence running on separate application servers on virtual host subdomains.

Alternatives

If Tomcat is your application server, you have two options:

- use mod_jk to send the requests to Tomcat
- use Tomcat's virtual hosts to make your Confluence application directory the same on the app server and the web server, removing the need for the URL mapping.
If your application server has an AJP connector, you can:

- use mod_jk to send the requests to your application server.

**Using Apache with virtual hosts and mod_proxy**

**Introduction**

The Apache web server is often used in front of an application server to improve performance in high-load environments. Mod_proxy simply redirects requests for certain URLs to another web server, so it typically requires no additional configuration on the application server.

This page documents a very common configuration request: configuring JIRA and Confluence on two Apache virtual hosts, running on different application servers. This is just a special case of mod_proxy configuration.

You can use virtual hosts in your application server if you want to run JIRA and Confluence on the same application server. There is a sample configuration for Tomcat you can use after configuring Apache.

**Apache configuration**

For this configuration to work properly, the application paths must be the same on both the application servers and the web server. For both JIRA and Confluence below, this is /.

<table>
<thead>
<tr>
<th>JIRA external URL</th>
<th><a href="http://jira.example.com/">http://jira.example.com/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>JIRA application server URL</td>
<td><a href="http://jira-app-server.internal.example.com:8080/">http://jira-app-server.internal.example.com:8080/</a></td>
</tr>
<tr>
<td>Confluence external URL</td>
<td><a href="http://confluence.example.com/">http://confluence.example.com/</a></td>
</tr>
<tr>
<td>Confluence application server URL</td>
<td><a href="http://confluence-app-server.internal.example.com:8080/">http://confluence-app-server.internal.example.com:8080/</a></td>
</tr>
</tbody>
</table>

Add the following to your Apache httpd.conf:

```html
# Put this after the other LoadModule directives
LoadModule proxy_module /usr/lib/apache2/modules/mod_proxy.so
LoadModule proxy_http_module /usr/lib/apache2/modules/mod_proxy_http.so

# Put this with your other VirtualHosts, or at the bottom of the file
NameVirtualHost *
<VirtualHost *>
  ServerName confluence.example.com
  ProxyRequests Off
  <Proxy>*</Proxy>
  Order deny,allow
  Allow from all
</VirtualHost>

ProxyPass / :8080/http://confluence-app-server.internal.example.com
ProxyPassReverse / :8080/http://confluence-app-server.internal.example.com
<Location>
  Order allow,deny
  Allow from all
</Location>
</VirtualHost>

<VirtualHost *>
  ServerName jira.example.com
  ProxyRequests Off
  <Proxy>*</Proxy>
  Order deny,allow
  Allow from all
</VirtualHost>

ProxyPass / :8080/http://jira-app-server.internal.example.com
ProxyPassReverse / :8080/http://jira-app-server.internal.example.com
<Location>
  Order allow,deny
  Allow from all
</Location>
</VirtualHost>
```

Points to note:

- ProxyPass and ProxyPassReverse directives send traffic from the web server to your application server.
- The application path is the same on the application server and on the web server (both are /).
- Because the above configuration uses name-based virtual hosting, you must configure your DNS server to point both names (jira.example.com, confluence.example.com) to your web server.
More information

For different ways to configure mod_proxy, see Using Apache with mod_proxy.

If you use Tomcat, mod_jk provides a different way of connecting Apache via AJP. You can also use the above configuration with just one application server if you use Tomcat’s virtual hosts.

Setting up Confluence with IIS

This page describes how to install Confluence Standalone with IIS using the Apache jk connector.

IIS is not a supported application server, as we do not test releases against it. The instructions below are for information only, and are published with the intention of sharing the knowledge we’ve acquired.

If you encounter problems with IIS, please bear in mind that our expertise with IIS is limited and that you should contact Microsoft for support.

If you are using JIRA as well as Confluence, please see this document instead.

On this page:
- Step 1. Install IIS
  - IIS 6
  - IIS 7
- Step 2. Install Confluence Standalone
- Step 3. Configure Tomcat
- Step 4. Configure the Tomcat Connector
- Step 5. Connect Confluence with IIS

Step 1. Install IIS

If you are running Windows Server 2003, you will only be able to use IIS 5.1 or 6. If you are using Windows Server 2008, you might like to install IIS 7.

**IIS 6**

If you are using Windows Server 2003 or XP professional, follow these instructions for installing IIS 6.

After installation is complete you should be able to go to http://localhost/iishelp/iis/misc/default.asp in your browser and see the IIS Getting Started page.

**IIS 7**

Similar to the previous Windows versions, IIS is not installed by default in Windows Server 2008 so you need to install it manually.

1. Start your Server Manager.
2. Click 'Roles'.
3. In the right hand panel, click "Add Roles".
4. A new window will pop up. Select the 'Web Server (IIS)' option.
5. Click 'Next' until you see another set of checkbox options to install the required 'Roles Services' for the web server (IIS).
6. Scroll down to 'Application Development' and tick the following:
   - CGI
   - ISAPI Extensions
   - ISAPI Filters
7. Click 'Next'.
8. And lastly, click 'Install'.

To check that IIS has been installed successfully, you can direct your browser to http://localhost/ and see the IIS 7 logo.

You can learn more about IIS 7 from this website.

Step 2. Install Confluence Standalone

Do a normal Confluence installation, after which you should be able to use confluence as usual through the URL http://localhost:8080.

Step 3. Configure Tomcat

Add another connector to your server.xml file, directly after the existing <Connector ... /> tag:
Restart Confluence.
In the logs/catalina.YYYY-MM-DD.log file you should see the Jk is running:

```
INFO: Starting Coyote HTTP/1.1 on http-8080
INFO: JK: ajp13 listening on /0.0.0.0:8009
7/09/2006 14:40:04 org.apache.jk.server.JkMain start
INFO: Jk running ID=0 time=0/31&nbsp;config-null
```

Step 4. Configure the Tomcat Connector

These instructions are based on the Tomcat Connector, IIS Configuration documentation.

1. Download the isapi_redirect.dll from the apache tomcat download page - click ‘browse download area’ to search for the file.
   * For example, you will find the win32 binaries here: http://apache.wildit.net.au/tomcat/tomcat-connectors/jk/binaries/win32/
   and if the current version is 1.2.27, you will download this file: http://apache.wildit.net.au/tomcat/tomcat-connectors/jk/binaries/win32/jk-1.2.27/isapi_redirect-1.2.27.dll.
   
   Make sure you rename the file to isapi_redirect.dll before using it otherwise it will not work.
2. Place the isapi_redirect.dll file in a directory c:\ajp_iis (the name of the directory isn't important, but if you use a different one make sure to take account of this in the instructions which follow)
3. Create a isapi_redirect.properties file in the same directory as you put the DLL. You can use this sample isapi_redirect.properties file if you have used ajp_iis as the directory name.
   * Note that this sample properties file assumes that the dll is named isapi_redirect.dll. If you want to name your DLL something else, you must edit this file.
4. Create workers.properties and uriveworkermap.properties files. You can use the sample workers.properties file and the sample uriveworkermap.properties file.
5. Create an empty file named rewrites.properties in c:\ajp_iis.

Step 5. Connect Confluence with IIS

Connect Confluence with IIS, depending on your version of IIS:

- To connect Confluence with IIS 5.1 or 6 please refer to Connecting Confluence with IIS 5.1 or 6.
- For IIS 7 please refer to Connecting Confluence with IIS 7.

RELATED TOPICS

- Connecting Confluence with IIS 5.1 or 6
- Connecting Confluence with IIS 7
- JIRA's documentation on Configuring IIS with Tomcat, including how to integrate both Confluence and JIRA with the same IIS instance. The Troubleshooting section there is relevant to Confluence as well as JIRA.
- List Of Supported Application Servers

Connecting Confluence with IIS 5.1 or 6

This documentation is part of the Setting up Confluence with IIS documentation.

On this page:

- Connecting Confluence with IIS
- Other Configuration
- IIS 6.0
- Troubleshooting

Connecting Confluence with IIS

The configuration with IIS web-server is not supported by Atlassian support. The instructions below are for information only, and have been tested in this specific setup.

1. Using the IIS management console (Internet Information Services in Administrative Tools), add a new Virtual Directory to your IIS web site. The name of the virtual directory must be jakarta, as it must correspond with the first part of the extension_uri setting specified in the isapi_redirect.properties file. Its physical path should be the directory where you placed isapi_redirect.dll (in the example it is C:\ajp_iis). When creating this new virtual directory, give it execute access as well.
2. Using the IIS management console, add isapi_redirect.dll as a filter to your IIS web site. To do this, right click on the Web Sites icon from the left hand pane of the Internet Services Manager (or IIS management console), select Properties and then the ISAPI Filters tab. The name of the filter should reflect its task, for example confluence, and its executable must be the full path to the ajp isapi redirector DLL, that is c:\is\ajp\isapi_redirect.dll

3. Restart IIS (stop and start the IIS service -- do this by right-clicking on 'Local Computer' in the IIS Manager and choosing All Tasks, Restart IIS...). Ensure that the confluence filter is marked with a green up arrow verifying that it is loaded and initialized correctly. If the ajp redirector did not initialize properly, check the log file for errors messages (C:\ajp_iis\ajp_plugin.log).

You can now go to http://localhost and see the Confluence Dashboard.

Other Configuration

If you want to run Confluence on a named context, rather than the root context (i.e. access it via http://host/confluence/ instead of just http://host) you need to:

1. Change the path attribute of the Context tag in server.xml from "" to "confluence".
2. Change the line 
/*=ajp13w uriworkermap.properties to /confluence=*/ajp13w.
3. Note that http://host/confluence gives a 404 error, but http://host/confluence/ works. You need to create a virtual directory so that requests without the trailing slash still work. If you are using Confluence you would want to name the alias as confluence (if you are using JIRA, name it as jira). The physical directory can be anywhere and does not need to contain anything.

IIS 6.0

1. If using IIS 6.0 you will also need to add the Jakarta Isapi Redirector to the Web Service Extension's.
2. Right-click on Web Service Extensions and choose Add a new Web Service Extension...
3. Enter tomcat for the Extension Name and then add the isapi_redirect.dll file to the required files.
4. Check the Set extension status to Allowed and then click on OK.
5. Also add the Jakarta Isapi Redirector to the ISAPI Filters for the website

Troubleshooting

If you have problems, look in the System Event Log, the c:\iis_ajp\ajp_plugin.log and your confluence logs.

When requesting support for IIS configuration problems, please include:

1. A zip of your logs directory
2. A zip of your c:\iis_ajp directory
3. Your conf/server.xml file
5. A screen shot of the ISAPI Filters tab of the Properties window of your 'Web Sites' icon.

RELATED TOPICS

- JIRA's documentation on Configuring IIS with Tomcat, including how to integrate both Confluence and JIRA with the same IIS instance. The Troubleshooting section there is relevant to Confluence as well as JIRA.
- Connecting Confluence with IIS 7
- List Of Supported Application Servers

Take me back to Setting up Confluence with IIS

Connecting Confluence with IIS 7

This documentation is part of the Setting up Confluence with IIS documentation.

On this page:

- Setting up Confluence with IIS 7
- Known Issues
  - 64 bit IIS
  - Double Escaped Character
- Troubleshooting

Setting up Confluence with IIS 7

The configuration with IIS web-server is not supported by Atlassian support. The instructions below are for information only, and have been tested in this specific setup.

After you have installed IIS 7, you need to configure the Tomcat Connector. Then follow these steps:

1. Open IIS 7 Manager
2. Navigate to your host. In the picture below, your host would be the one highlighted in blue just below "Start Page".
3. Double click on the ISAPI and CGI Restrictions Icon
4. On the right hand panel, click on Add... Click here for picture
5. Point the path to your isapi_redirect.dll file and give it a description eg. tomcat. Give it an execute permission by clicking on
the Allow extension path to execute tick box.

6. Now, click on the Default Website and double click ISAPI Filter.

7. On the right hand panel, click on Add... and point to your isapi_redirect.dll file, give the filter a name (eg. tomcat)

8. Navigate to your Default Website again.

9. Right click on Default Website to create a virtual directory and name it jakarta, point this to your c:\ajp_iis directory.

10. Click on the newly created virtual directory jakarta and double click Handler Mappings.

11. Click on Edit Feature Permissions and tick the execute permission.

12. Add another virtual directory and name it confluence. Point the physical path to c:\confluence.

13. Set a context path in Confluence’s xml configuration. For example, if you are using Confluence Standalone distribution you need to edit <confluence install directory>/conf/server.xml and edit your context path to this:

```
<Context path="/confluence" docBase="../confluence" debug="0" reloadable="false"/>
```

The reason for creating this virtual directory is so that requests without the trailing slash still work. For example, if you are deploying Confluence under http://www.example.com/confluence/ without the virtual directory, then requests to http://www.example.com/confluence will fail.

14. Finally, navigate to your host context again and do a restart. Confluence should now be accessible via http://localhost/confluence

Known Issues

64 bit IIS

If you are running a 64 bit OS, please use a 64 bit version of the Tomcat IIS connector.

Customer submitted solution:
If you must use a 32 bit IIS connector, you can do so by clicking Application Pools > Advanced Settings > Allow 32bit applications.

Double Escaped Character

IIS 7 blocks double escaped character sequences by default. This will cause problems with Confluence pages with spaces. To fix this, please see http://support.microsoft.com/kb/942076.

Troubleshooting

The information in the Windows System Event Log can be useful for troubleshooting, followed by the c:\ajp_iis\ajp_plugin.log and your confluence logs.

When requesting support for IIS configuration problems, please include:

1. A zip of your logs directory
2. A zip of your c:\ajp_iis directory
3. Your conf/server.xml file

RELATED TOPICS

- JIRA’s documentation on Configuring IIS with Tomcat, including how to integrate both Confluence and JIRA in the same IIS server.
- The Troubleshooting section there is relevant to Confluence as well as JIRA.
- Connecting Confluence with IIS 5.1 or 6
- List Of Supported Application Servers

Take me back to Setting up Confluence with IIS

Setting Up Public Access
Granting of permissions to use Confluence can be done on the basis of membership of a group, to a particular user, or to the 'Anonymous' user. There is not an actual user named 'Anonymous', it is just a name for a category of granted permissions.

In the security administration of Confluence, the 'Anonymous' user includes all logged-in users, and anonymous users who have not logged in. That is, if you allow the 'Anonymous' user to do something, you are allowing all users to do it.

To enable public access to a confluence space, you must give 'Anonymous' the following permissions:

- The global 'Use Confluence' permission. This permission determines whether a user can access the Confluence installation at all, and is set by the site administrator in Administration -> Global Permissions.
- The relevant space permissions. The 'Anonymous' user must have at least the 'View Space' permission for a space to be publicly accessible. You set these permissions via 'Browse Space' -> 'Space Admin' -> 'Permissions'.

While these two permissions are the bare minimum necessary for public access to a space, you may wish to give 'Anonymous' additional permissions if you want a space to allow anonymous comments, or anonymous editing.

We severely warn against giving the 'Anonymous' user any administrative privileges, either within a space, or especially globally over the Confluence instance. Giving administrative privileges to untrusted users may lead to a serious security compromise of your site.

**Related**

- Enabling or Disabling Public Signup

**Setup a mail session in standalone version**

1. Add the following to your web.xml file (insert it just before </web-app>):

```xml
<resource-ref>
  <description>Test description</description>
  <res-ref-name>mail/Session</res-ref-name>
  <res-type>javax.mail.Session</res-type>
  <res-auth>Container</res-auth>
</resource-ref>
```

2. Add the following to your server.xml file (anywhere inside the <context ...> tags)

**For Tomcat 5.0.x**

```xml
<Resource name="mail/Session" auth="Container" type="javax.mail.Session"/>
<ResourceParams name="mail/Session">
  <parameter>
    <name>mail.smtp.host</name>
    <value>mail.example.com</value>
  </parameter>
  <parameter>
    <name>mail.smtp.port</name>
    <value>25</value>
  </parameter>
</ResourceParams>
```

**For Tomcat 5.5.x and Tomcat 6.x**

```xml
<Resource name="mail/Session" auth="Container" type="javax.mail.Session" mail.smtp.host="mail.example.com" mail.smtp.port="25" />
```

- To use the TLS protocol, add the property mail.smtp.starttls.enable="true" to this configuration.

You only need to specify the mail.smtp.port parameter if you are using a non-standard port for SMTP.

3. Restart the server. Go to create SMTP mail server screen. For JNDI location, enter:

```java
java:comp/env/mail/Session
```

**Start Confluence automatically on system startup**

Confluence can be configured to start automatically on system startup, allowing it to recover automatically after a reboot.
Start Confluence automatically on Linux & Unix

On Unix/Linux, the best practice is to install, configure and run each service (including Confluence) as a dedicated user with only the permissions they require.

To install, configure and run Confluence automatically on Unix/Linux:

1. Create a `confluence` user for instance, using the following command:

   ```sh
   sudo useradd --create-home -c "Confluence role account" confluence
   ```

2. Create a directory to install Confluence into:

   ```sh
   sudo mkdir /usr/local/confluence
   sudo chown confluence: /usr/local/confluence
   ```

3. Log in as the `confluence` user to install Confluence:

   ```sh
   sudo su - confluence
cd /usr/local/confluence/
tar zxvf /tmp/confluence-3.0.1-std.tar.gz
   ln -s confluence-3.0.1-std/ current
   # Edit current/confluence/WEB-INF/classes/confluence-init.properties, and set
   # confluence.home=/usr/local/confluence/home
   ```

4. Then back as root, create the file `/etc/init.d/confluence` (code shown below), which will be responsible for starting up Confluence after a reboot (or when manually invoked).

   ```sh
   #!/bin/sh
   # confluence-service
   #
   # $Id$
   #
   # This script starts up the Confluence server.
   # It will start the server after a reboot or manual invocation.
   #
   # Usage:
   # confluence-service start
   # confluence-service stop
   # confluence-service status
   # confluence-service restart
   #
   # $Author$ 
   # $Date$ 
   # $Revision$ 
   #
   # Copyright 2004-2005 Atlassian
   if [ -x /usr/bin/java ]; then
     java -jar /usr/local/confluence/current/confluence.jar
   else
     java /usr/local/confluence/current/confluence.jar
   fi
   ```

   **Note:** If you are running Ubuntu Jaunty (or later) do not perform this step. Please use the instructions further down this page.
5. Make this file executable:

```
sudo chmod +x /etc/init.d/confluence
```

6. Set this file to run at the appropriate runlevel. For example, use `sudo ntsysv` on Redhat-based systems, `sudo update-rc.d confluence defaults` or `rcconf` on Debian-based systems.

7. You should now be able to start Confluence with the init script. A successful startup output typically looks like this:

```
$ sudo /etc/init.d/confluence start
Starting Confluence:
If you encounter issues starting up Confluence Standalone, please see the Installation guide at http://confluence.atlassian.com/display/DOC/Confluence+Installation+Guide
Using CATALINA_BASE: /usr/local/confluence/current
Using CATALINA_HOME: /usr/local/confluence/current
Using CATALINA_TMPDIR: /usr/local/confluence/current/temp
Using JRE_HOME: /usr/lib/jvm/java-1.5.0-sun
done.
```

ℹ️ You should then see this running at `http://<server>:8080/`. 
Adding Confluence as a service for Ubuntu Jaunty (or later)

To continue configuring Confluence to start automatically as a service on Ubuntu Jaunty (or later):

1. After logging in as the confluence user to install Confluence, create start and stop scripts in /usr/local/confluence:

   Example start script:

   ```bash
   #!/bin/bash
   export JAVA_HOME=/usr/lib/jvm/java-6-sun-1.6.0.16/
   export JDK_HOME=/usr/lib/jvm/java-6-sun-1.6.0.16/
   cd /usr/local/confluence/current/bin
   ./startup.sh
   ```

   Example stop script:

   ```bash
   #!/bin/bash
   export JAVA_HOME=/usr/lib/jvm/java-6-sun-1.6.0.16/
   export JDK_HOME=/usr/lib/jvm/java-6-sun-1.6.0.16/
   cd /usr/local/confluence/current/bin
   ./shutdown.sh
   ```

2. Make both of these scripts executable. For example, by issuing the command: `sudo chmod a+x /usr/local/confluence/start /usr/local/confluence/stop`.

3. Create two text files in /etc/event.d/ called confluence-up and confluence-down:

   confluence-up:

   ```bash
   start on runlevel 2
   start on runlevel 3
   start on runlevel 4
   start on runlevel 5
   ```

   ```bash
   exec sudo -u confluence /usr/local/confluence/start >> /tmp/confluence-startup.out 2>&1
   ```

   confluence-down:

   ```bash
   start on runlevel 1
   start on runlevel 6
   ```

   ```bash
   exec sudo -u confluence /usr/local/confluence/stop >> /tmp/confluence-shutdown.out 2>&1
   ```

RELATED TOPICS

Start Confluence automatically on system startup

Start Confluence automatically on OS X using launchd

`launchd` is the OS X component which manages long running processes - daemons or services.

Apple has an introduction to `launchd`.

There's a mismatch between how launchd expects a daemon to behave, and how the default startup scripts for Tomcat (the application server used by the stand-alone Confluence distribution) operate. Launchd expects the process it starts to run forever, but 'catalina.sh start' starts the JVM to run Tomcat and then exits. Tomcat provides 'catalina.sh stop' to cleanly shut down Tomcat by connecting to a socket which Tomcat listens on, but launchd stops daemons by sending them a signal, which simply kills the process immediately if no specific handling is included.

To match Tomcat to launchd, we need to write a wrapper shell script, which we add to $CATALINA_HOME/bin:
This shell script starts Tomcat, and then waits for the process to complete, so launchd is happy that Tomcat is still running. It also installs a signal handler, which calls the shutdown() function to cleanly shut down Tomcat when launchd signals the script.

You can try this script manually - start it, watch Confluence start, and then type `ctrl-C`, and see Confluence shut down cleanly (note that it won't shut down cleanly if Tomcat hasn't started yet - it takes a few seconds for Tomcat to start listening on the shutdown socket).

We also need a launchd .plist, to tell launchd how to start Tomcat:

```xml
<plist version="1.0">
  <dict>
    <key>Disabled</key>
    <false/>
    <key>EnvironmentVariables</key>
    <dict>
      <key>CATALINA_HOME</key>
      <string>/Users/tomd/conf/confluence-2.1.3-std</string>
      <key>JAVA_HOME</key>
      <string>/Library/Java/Home</string>
    </dict>
    <key>Label</key>
    <string>com.atlassian.confluence</string>
    <key>OnDemand</key>
    <false/>
    <key>ProgramArguments</key>
    <array>
      <string>/Users/tomd/conf/confluence-2.1.3-std/bin/launchd_wrapper.sh</string>
    </array>
    <key>RunAtLoad</key>
    <true/>
    <key>ServiceDescription</key>
    <string>Confluence</string>
    <key>StandardErrorPath</key>
    <string>/Users/tomd/conf/confluence-2.1.3-std/logs/launchd.stderr</string>
    <key>StandardOutPath</key>
    <string>/Users/tomd/conf/confluence-2.1.3-std/logs/launchd.stdout</string>
    <key>UserName</key>
    <string>tomd</string>
  </dict>
</plist>
```

This file needs to be placed in /Library/LaunchDaemons, which is the location for system-wide services which are not part of base OS X.

There are a number of things to note about this plist:

1. The path to your Confluence installation has to be explicitly specified in four places. I don't know if there's a better solution to this.
2. JAVA_HOME is set to use the default JDK. On 10.4.4 this is 1.4.2, if you want to use 1.5 you would need to change JAVA_HOME to
To start and stop Confluence manually you use the commands:
```
cd /Library/LaunchDaemons
sudo launchctl load -w confluence.plist
and
sudo launchctl unload -w confluence.plist
```

I confess that I don’t understand the semantics of `launchctl start/stop` - stopping a daemon seems to kill the process, but then `launchd` immediately restarts it.

**Related Topics**

Start Confluence automatically on system startup

**Start Confluence automatically on Windows as a Service**

For long-term use, we recommend that you configure Confluence to start automatically when the operating system restarts. For Windows servers, this means configuring Confluence to run as a Windows service.

**Note for 64-bit Windows**

If you are running 64-bit Windows, please note that Apache Tomcat cannot run as a Windows service if you are using a 64-bit JDK. Please ensure that you are using a 32-bit JDK. (If you used the automated Confluence Installer, you will not run into this problem because a 32-bit JDK has already been installed for you.) For more information, please refer to CONF-12293 for a workaround if you intend to continue using the 64-bit JDK.

There are two ways to install Confluence Standalone as a service: via the Confluence installer or manually as described below.

**On this page:**

- Reasons for Starting Confluence as a Service
- Using the Installer to Install Confluence as a Service
- Manually Installing Confluence Standalone as a Service
- Managing Confluence as a Service
- Upgrading Confluence
- Troubleshooting Confluence while Running as a Windows Service
- Check the Knowledge Base Articles
- Requesting Support

**Reasons for Starting Confluence as a Service**

Installation as a Windows service offers these advantages:

- Reduced risk of shutting down Confluence by accident. (If you start Confluence manually, a console window opens and there is a risk of someone accidentally shutting down Confluence by closing the window.)
- Automated Confluence recovery after server restart
- Improved troubleshooting through logging server output to file

You can read more about Windows services in the Microsoft Developer Network.

**Using the Installer to Install Confluence as a Service**

If you use the automated Confluence Installer to install Confluence on Windows, you will be prompted to choose to install Confluence as a Windows service. For more information about the automated Confluence Installer, please refer to Installing Confluence Standalone Using the Automatic Installer.

**Manually Installing Confluence Standalone as a Service**

From your Windows-based server:

1. Open a command prompt in the `<CONFLUENCE-INSTALL>/bin` directory.

   ```
   echo %JAVA_HOME%
   ```

   Note that any directory in the path with spaces (e.g. `C:\Program Files` must be converted to its eight-character equivalent (e.g. `C:\Progra~1`).

2. Confirm that the `JAVA_HOME` variable is set to the JDK base directory with the command:

3. If you are installing Confluence on a Windows 2008 server, be sure to run the command prompt using 'run as administrator'.
4. Use the following command to install the service with default settings:

```
service.bat install Confluence
```

5. Now, to have the service start automatically when the server starts, run:

```
tomcat6 //US//Confluence --Startup auto
```

6. If you have a less than a 512 megabytes of memory, skip this step. For users with large Confluence installations, you can increase the maximum memory Confluence can use. (The default is 256MB). For example, you can set the maximum memory to 512 megabytes using:

```
tomcat6 //US//Confluence --JvmX 512
```

7. If you do not have any JVM parameters you pass to your standalone distribution of Confluence, you can skip this step. If you do, add them to the service using:

```
tomcat6 //US//Confluence ++JvmOptions="-Djust.an.example=True"
```

8. For further configuration options, please refer to the Tomcat Windows Service How-To guide

9. Go to your Windows Control Panel -> Administrative Tools -> Services -> Apache Tomcat Confluence and right-click on Properties to verify the settings are correct.

10. If you wish to run the service as a non-administrator user for security, or if you are using network drives for backups, attachments or indexes, you can run the service as another user. To change users, open the Apache Tomcat Confluence properties, go to the 'Log On' tab and enter the required username and password. Go to your Windows Control Panel -> User Accounts and confirm that the user has write permissions for the %CATALINA_HOME%, index and database directories. Note that any network drives must be specified by UNC and not letter mappings (e.g. \\backupserver\confluence not z:\confluence

   Confluence is now be installed as a service, but will not automatically start up until the next server reboot

11. Start the Confluence service with the command:

```
net start Confluence
```

Managing Confluence as a Service

You can manage the Confluence service from the command prompt.

- Stop Confluence with:

```
net stop Confluence
```

- Uninstall the Confluence service with:

```
service.bat remove Confluence
```

Upgrading Confluence

After upgrading Confluence, you can either uninstall and reinstall the Windows service or change the StartPath parameter to your new folder. Refer to the Tomcat documentation for help.

Troubleshooting Confluence while Running as a Windows Service

- When investigating memory issues or bugs, it may be useful to view information from Confluence’s garbage collection. To turn on the verbose garbage collection, use the command:

```
tomcat6 //US//Confluence ++JvmOptions="-Xloggc:<CONFLUENCE-INSTALL>/logs\atlassian-gc.log"
```

If you are running 64-bit Windows, please note that Apache Tomcat cannot run as a Windows service if you are using a 64-bit JDK. Please ensure that you are using a 32-bit JDK. (If you used the automated Confluence Installer, you will not run into this problem because a 32-bit
JDK has already been installed for you.) For more information, please refer to [CONF-12293](http://jira.atlassian.com/browse/CONF-12293) for a workaround if you intend to continue using the 64-bit JDK.

Starting the service produces an error similar to `Failed creating java C:\jdk1.6.0_10\jre\bin\server\jvm.dll`. This is because Tomcat is looking for a `msvcr71.dll` file. Please refer to this [Knowledge Base article](http://jira.atlassian.com/browse/CONF-12293).

Unable to start Confluence as service after Allocating higher JVM Memory. Please refer to this [Knowledge Base article](http://jira.atlassian.com/browse/CONF-12293).

Confluence 2.9 Installer does not work when installed as service, due to missing semi-colon in `service.bat`. Please refer to reported issue [CONF-12785](http://jira.atlassian.com/browse/CONF-12785).

You can use a [Sysinternals tool](http://www.sysinternals.com) called `Procmon.exe` from the The Microsoft Windows Sysinternals Team, to check the error occurred at the specific time when starting Confluence Service. You need to match the time when Tomcat failed captured by this tool against the time in Windows’ Event Viewer.

Note that it is not recommended that you run this tool too long as it may disrupt other Atlassian applications. So once you have captured the required information you will need to press Ctrl + E to stop capturing.

Check the Knowledge Base Articles

- Unable to configure Confluence to run as a service on Tomcat
- Unable to Install Service on Windows Vista
- Could not Start Confluence as a Service After Allocating JVM Memory
- Confluence does not Start due to Windows Firewall
- Unable to change JVM memory when running Evaluation Installer as a Windows service

Requesting Support

If after you follow the troubleshooting guide above you still cannot make Confluence run as Windows Service or there is an error when setting the JVM configuration for the service, you can create a ticket in [http://support.atlassian.com](http://support.atlassian.com) for help.

Please provide the following information we need to assist you:

- Are you running a 32 bit or 64 bit Windows?
- Give us the result of running `java --version` from Windows command line console.
- A screen shot of your Windows Registry setting for Tomcat.
- If you have modified `service.bat`, please give us a copy of this file for review.
- What application server are you using? eg. Are you using the Confluence Standalone distribution?

**RELATED TOPICS**

- Start Confluence automatically on system startup
- Fix Out of Memory errors by Increasing Available Memory
- Editing the Windows Registry

_Troubleshooting Confluence while Running as a Windows Service

**Troubleshooting Confluence while Running as a Windows Service**

- When investigating memory issues or bugs, it may be useful to view information from Confluence's garbage collection. To turn on the verbose garbage collection, use the command:

  ```
tomcat6 //US//Confluence ++JvmOptions="-Xloggc:<CONFLUENCE-INSTALL>\logs\atlassian-gc.log"
  ```

- If you are running 64-bit Windows, please note that Apache Tomcat cannot run as a Windows service if you are using a 64-bit JDK. Please ensure that you are using a 32-bit JDK. (If you used the automated Confluence Installer, you will not run into this problem because a 32-bit JDK has already been installed for you.) For more information, please refer to [CONF-12293](http://jira.atlassian.com/browse/CONF-12293) for a workaround if you intend to continue using the 64-bit JDK.

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Note that it is not recommended that you run this tool too long as it may disrupt other Atlassian applications. So once you have captured the required information you will need to press Ctrl + E to stop capturing.

**Check the Knowledge Base Articles**

- Unable to configure Confluence to run as a service on Tomcat
- Unable to Install Service on Windows Vista
- Could not Start Confluence as a Service After Allocating JVM Memory
- Confluence does not Start due to Windows Firewall
- Unable to change JVM memory when running Evaluation Installer as a Windows service

**Requesting Support**

If after you follow the troubleshooting guide above you still cannot make Confluence run as Windows Service or there is an error when setting the JVM configuration for the service, you can create a ticket in [http://support.atlassian.com](http://support.atlassian.com) for help.

Please provide the following information we need to assist you:

- Are you running a 32 bit or 64 bit Windows?
- Give us the result of running `java -version` from Windows command line console.
- A screen shot of your Windows Registry setting for Tomcat.
- If you have modified `service.bat`, please give us a copy of this file for review.
- What application server are you using? eg. Are you using the Confluence Standalone distribution?

**RELATED TOPICS**

- Start Confluence automatically on Windows as a Service

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**Supported Platforms FAQ**

**Q: How does Atlassian choose which JDK versions, application servers and databases to support?**

For databases and application servers, we try to pick a good cross-section, including open source options and the popular commercial platforms. We then choose which JDK versions to support based on the recommended environments for these servers.

**Q: What does it mean that a platform is supported?**

- Confluence is regularly tested on that platform during the development cycle.
- The platform is available within Atlassian for support technicians and developers to reproduce problems
- Bugs specific to that platform will be given a high priority

Supporting a platform means we know how to get Confluence running in that environment, and can troubleshoot Confluence issues within it. It does not mean we have any particular expertise beyond that. As such, we may not be able to help with customising or tuning that application server or database. Atlassian support is not a substitute for a good DBA.

**Q: What does it mean that a platform is not supported?**

If you are running Confluence on an unsupported platform, there is a limit to the level of support we can provide. We will support your application, but if we run into problems, we will recommend switching to a supported platform:

- Confluence has not been tested on that platform by Atlassian
- Developers and support technicians will be unable to reproduce problems on that platform
- Bugs specific to that platform will be given a low priority

If you are technically minded, enjoy a challenge and (most importantly) are able to switch platforms if things don't work out, we encourage you to try new things. Please report back on your experiences. Keep in mind that even just by repackaging Tomcat, vendors can horribly break things (e.g. JBoss 3's classloader), and that problems often arise in infrequently used parts of JIRA (upgrades, bulk operations, plugins, concurrent operations).

If you just want something to work, we recommend sticking to what we know works. There are plenty of free, high quality app servers and databases available, and few reasons not to use them.

**Q: If you write your application to standards like J2EE, JDBC and SQL, doesn't that mean it should run on any compliant server?**

The operative word there is *should*. Confluence is a complicated application, and we commonly come across interesting edge-cases, places where servers have interpreted the specifications differently, and straight-out incompatibilities. Then, of course, each server has its own
Q: How can I get Atlassian to support Confluence on a new platform?

Supporting a new platform involves a significant investment of time by Atlassian, both up-front costs to set up new testing environments and fix any issues we might encounter, and the ongoing costs involved in maintaining the application against this new environment in the future. As such, supporting a new platform is not something we will do unless we know there is significant demand.

So let us know you're interested. File an issue in JIRA (or vote on an existing issue). Start a thread in the user forum. Just keep in mind that your interest alone will not be enough to convince us to add support for your application server or database: we'd need to see a number of votes on the issue, or a significant level of interest in the forum thread.

Q: My organisation has standardised on an operating environment that Confluence does not support. What can I do?

Ultimately, you really only have two options:

1. Run Confluence in the unsupported environment, with all the caveats mentioned above
2. Make an exception to your standard environment

By all means let us know that your preferred environment is not supported. However, even if we did decide to add support it would be unlikely that we'd be able to do so in any timeframe that would suit your deployment of Confluence in the short term.

List Of Supported Operating Systems

- **Confluence on Virtualised Environments**
  We are proud to announce that Atlassian officially supports non-clustered installations of Confluence 3.0 and later on VMware. Although possible, we do not recommend running versions of Confluence prior to 3.0 on VMware, since Confluence 3.0 resolved many performance issues that were present in earlier versions. Be aware that we do not support clustered installations of Confluence on VMware. For more information, please refer to Running Confluence in a Virtualised Environment.

- While some of our customers run Confluence on SPARC-based hardware, Atlassian only officially supports Confluence running on x86 hardware and 64-bit derivatives of x86 hardware.

Supported operating systems:

- Windows (including 64-bit)
- Linux
- Mac OS X
- Solaris
- Unix

Confluence should work on any system that has Java 5 support. If you can get Confluence running on an unsupported operating system we will still try to help you if you encounter problems, but we may ask you to move to a supported operating system before we can provide more detailed support.

**RELATED TOPICS:**

- Server Hardware Requirements Guide
- List Of Supported Databases
- System Requirements
- List Of Supported Application Servers
- Supported Platforms FAQ

The Confluence data model

On this page:

- General Database Diagram
- Authentication
  - Atlassian-user
  - OpenSymphony
- Content
- Clustering
  - System information
  - Spaces
- Appearance
- Miscellaneous
The Hibernate mapping files are the authoritative reference. These are the *.hbm.xml files which have been bundled into the main Confluence .jar file in recent releases.

This document is little more than the Confluence schema with added comments, but the priority was placed on making the information available.

General Database Diagram

Authentication

Atlassian-user

This is the "new" authentication system, which is more flexible and extensible than OpenSymphony.

Table "groups"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>groupname</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
</tbody>
</table>

Indexes:

"groups_pkey" PRIMARY KEY, btree (id)

Table "users"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>name</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>password</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>email</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>created</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>fullname</td>
<td>character varying(255)</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:

"users_pkey" PRIMARY KEY, btree (id)
"users_name_key" UNIQUE, btree (name)

local_members: establishes many-to-many association between users and groups.

Table "local_members"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>userid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>groupid</td>
<td>bigint</td>
<td>not null</td>
</tr>
</tbody>
</table>

Indexes:

"local_members_pkey" PRIMARY KEY, btree (groupid, userid)

Foreign-key constraints:

"fk6b8fb445117d5fda" FOREIGN KEY (groupid) REFERENCES groups(id)
"fk6b8fb445ce2b3226" FOREIGN KEY (userid) REFERENCES users(id)

external_entities: Maps users from LDAP (or any other external authentication system) to IDs in Confluence DB
**Table "external_entities"**

| Column | Type             | Modifiers |
|--------+------------------|-----------|
| id     | bigint           | not null  |
| name   | character varying(255) |           |
| type   | character varying(255) | not null  |

Indexes:
- "external_entities_pkey" PRIMARY KEY, btree (id)

**external_members:** associates LDAP (or other external) users with local groups.

| Column    | Type  | Modifiers |
|-----------+-------+-----------|
| extentityid | bigint | not null  |
| groupid    | bigint | not null  |

Indexes:
- "external_members_pkey" PRIMARY KEY, btree (groupid, extentityid)
- "fkd8c8d8a5117d5fd" FOREIGN KEY (groupid) REFERENCES groups(id)
- "fkd8c8d8a5f25e5df" FOREIGN KEY (extentityid) REFERENCES external_entities(id)

**OpenSymphony**

The "old" authentication system, which was the default prior to 2.7.

| Column   | Type             | Modifiers |
|----------+------------------|-----------|
| id       | bigint           | not null  |
| groupname | character varying(255) | not null  |

Indexes:
- "os_group_pkey" PRIMARY KEY, btree (id)
- "os_group_groupname_key" UNIQUE, btree (groupname)

| Column  | Type             | Modifiers |
|---------+------------------|-----------|
| id      | bigint           | not null  |
| username | character varying(255) | not null  |
| passwd  | character varying(255) | |

Indexes:
- "os_user_pkey" PRIMARY KEY, btree (id)
- "os_user_username_key" UNIQUE, btree (username)

| Column  | Type  | Modifiers |
|---------+-------+-----------|
| group_id | bigint | not null  |
| user_id  | bigint | not null  |

Indexes:
- "os_user_group_pkey" PRIMARY KEY, btree (user_id, group_id)
- "fk932472461e2e76db" FOREIGN KEY (group_id) REFERENCES os_group(id)
- "fk93247246f73ae0f" FOREIGN KEY (user_id) REFERENCES os_user(id)

**Content**

The actual information that users are storing and sharing.

**attachmentdata:** stores the binary data for attached files.

Only used when Confluence is configured to store attachments in the database; otherwise, attachments are stored in the local filesystem.
### Table "attachmentdata"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>attachmentdataid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>attversion</td>
<td>integer</td>
<td>not null</td>
</tr>
<tr>
<td>data</td>
<td>bytea</td>
<td></td>
</tr>
<tr>
<td>attachmentid</td>
<td>bigint</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "attachmentdata_pkey" PRIMARY KEY, btree (attachmentdataid)
- "attach_data_idx" btree (attachmentid)

Foreign-key constraints:
- "fk9dc3e34d34a917e" FOREIGN KEY (attachmentid) REFERENCES attachments(attachmentid)

### Table "attachments"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>attachmentid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>title</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>contenttype</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>pageid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>creator</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmodifier</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>filesize</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>attachment_comment</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>attversion</td>
<td>integer</td>
<td></td>
</tr>
<tr>
<td>prevver</td>
<td>bigint</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "attachments_pkey" PRIMARY KEY, btree (attachmentid)
- "att_pageid_idx" btree (pageid)
- "att_prevver_idx" btree (prevver)

Foreign-key constraints:
- "fk54475f9017d4a070" FOREIGN KEY (prevver) REFERENCES attachments(attachmentid)
- "fk54475f908c38fbea" FOREIGN KEY (pageid) REFERENCES content(contentid)

### Table "bodycontent"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>bodycontentid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>body</td>
<td>text</td>
<td></td>
</tr>
<tr>
<td>contentid</td>
<td>bigint</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "bodycontent_pkey" PRIMARY KEY, btree (bodycontentid)
- "body_content_idx" btree (contentid)

Foreign-key constraints:
- "fka898d4778dd41734" FOREIGN KEY (contentid) REFERENCES content(contentid)

### Table "content"

### bodycontent:
stores the actual content of Confluence pages. No versioning information or other metadata is stored here, though; that's all in the content table.

### content:
a persistence table for the ContentViewEntityObject class of objects. The subclass is indicated by the contenttype column.
## Table "content"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>contentid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>contenttype</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>title</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>version</td>
<td>integer</td>
<td></td>
</tr>
<tr>
<td>creator</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmodifier</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>versioncomment</td>
<td>text</td>
<td></td>
</tr>
<tr>
<td>prevver</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>spaceid</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>parentid</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>messageid</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>draftpageid</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>draftspacekey</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>drafttype</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>draftpageversion</td>
<td>integer</td>
<td></td>
</tr>
<tr>
<td>pageid</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>parentcommentid</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>username</td>
<td>character varying(255)</td>
<td></td>
</tr>
</tbody>
</table>

**Indexes:**
- "content_pkey" PRIMARY KEY, btree (contentid)
- "c_draftpacekey_idx" btree (draftspacekey)
- "c_drafttype_idx" btree (drafttype)
- "c_drafttype_idx" btree (version)
- "c_messageid_idx" btree (messageid)
- "c_parentid_idx" btree (parentid)
- "c_prevver_idx" btree (prevver)
- "c_spaceid_idx" btree (spaceid)
- "c_title_idx" btree (title)
- "c_username_idx" btree (username)

**Foreign-key constraints:**
- "fkf0e7436e27072aef" FOREIGN KEY (labelid) REFERENCES label(labelid)
- "fkf0e7436e8dd41734" FOREIGN KEY (contentid) REFERENCES content(contentid)

### content_label:

Arbitrary text labels for content.

## Table "content_label"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>labelid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>contentid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>spacekey</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>owner</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
</tbody>
</table>

**Indexes:**
- "content_label_pkey" PRIMARY KEY, btree (id)
- "cl_contentid_idx" btree (contentid)
- "cl_labelid_idx" btree (labelid)
- "cl_lastmoddate_idx" btree (lastmoddate)
- "cl_spacekey_idx" btree (spacekey)

**Foreign-key constraints:**
- "fkf0e7436e27072aef" FOREIGN KEY (labelid) REFERENCES label(labelid)
- "fkf0e7436e8dd41734" FOREIGN KEY (contentid) REFERENCES content(contentid)

### label:

The other half of the content_label system.
Table "label"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>labelid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>name</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>owner</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>namespace</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "label_pkey" PRIMARY KEY, btree (labelid)
- "l_name_idx" btree (name)
- "l_namespace_idx" btree (namespace)
- "l_owner_idx" btree ("owner")

content_perm: content-level permissions objects.

Table "content_perm"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>cp_type</td>
<td>character varying(10)</td>
<td>not null</td>
</tr>
<tr>
<td>username</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>groupname</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>cps_id</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>creator</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmodifier</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "content_perm_pkey" PRIMARY KEY, btree (id)
- "cp_gn_idx" btree (groupname)
- "cp_os_idx" btree (cps_id)
- "cp_un_idx" btree (username)

Foreign-key constraints:
- "fkbd74b31676e33274" FOREIGN KEY (cps_id) REFERENCES content_perm_set(id)

content_perm_set: one-to-many mapping for content items and their permissions, with added metadata.

Table "content_perm_set"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>cont_perm_type</td>
<td>character varying(10)</td>
<td>not null</td>
</tr>
<tr>
<td>content_id</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "content_perm_set_pkey" PRIMARY KEY, btree (id)
- "cps_content_idx" btree (content_id)

Foreign-key constraints:
- "fkbf45a7992caf22c1" FOREIGN KEY (content_id) REFERENCES content(contentid)

Clustering

clustersafety: normally, this table only contains one row. The value of the safetynumber is what Confluence uses to find out whether another instance is sharing its database without being part of the cluster.

Table "clustersafety"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>clustersafetyid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>safetynumber</td>
<td>integer</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "clustersafety_pkey" PRIMARY KEY, btree (clustersafetyid)

System information
conversion used by the upgrade system to determine what to expect from the database, so as to negotiate upgrades.

Table "conversion"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>conversionid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>buildnumber</td>
<td>integer</td>
<td>not null</td>
</tr>
<tr>
<td>installdate</td>
<td>timestamp</td>
<td></td>
</tr>
<tr>
<td>versiontag</td>
<td>character varying</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "conversion_pkey" PRIMARY KEY, btree (conversionid)
- "conversion_buildnumber_key" UNIQUE, btree (buildnumber)

plugindata: records which plugins have been installed, and when. Data is a blob of the actual plugin .jar file. This is principally cluster-related.

Table "plugindata"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>plugindataid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>pluginkey</td>
<td>character varying</td>
<td>not null</td>
</tr>
<tr>
<td>filename</td>
<td>character varying</td>
<td>not null</td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp</td>
<td></td>
</tr>
<tr>
<td>data</td>
<td>bytea</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "plugindata_pkey" PRIMARY KEY, btree (plugindataid)
- "plugindata_filename_key" UNIQUE, btree (filename)
- "plugindata_pluginkey_key" UNIQUE, btree (pluginkey)

Spaces

spacegroups: this table is only used by the hosted environment.

Table "spacegroups"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>spacegroupid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>spacegroupname</td>
<td>character varying</td>
<td></td>
</tr>
<tr>
<td>spacegroupkey</td>
<td>character varying</td>
<td>not null</td>
</tr>
<tr>
<td>creator</td>
<td>character varying</td>
<td></td>
</tr>
<tr>
<td>licenserkey</td>
<td>text</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp</td>
<td></td>
</tr>
<tr>
<td>lastmodifier</td>
<td>character varying</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "spacegroups_pkey" PRIMARY KEY, btree (spacegroupid)
- "spacegroups_spacegroupkey_key" UNIQUE, btree (spacegroupkey)
### Table "spacepermissions"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>permid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>spaceid</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>permtype</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>permgroupname</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>permusername</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creator</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmodifier</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
</tbody>
</table>

**Indexes:**
- "spacepermissions_pkey" PRIMARY KEY, btree (permid)
- "sp_permtype_idx" btree (permtype)
- "sp_pgroupname_idx" btree (permgroupname)
- "sp_puname_idx" btree (permusername)
- "sp_spaceid_idx" btree (spaceid)

**Foreign-key constraints:**
- "fkd33f23beb2d6c6081" FOREIGN KEY (spaceid) REFERENCES spaces(spaceid)

### Table "spaces"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>spaceid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>spacename</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>spacekey</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>spacedescid</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>homepage</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>creator</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmodifier</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>spacetype</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>spacegroupid</td>
<td>bigint</td>
<td></td>
</tr>
</tbody>
</table>

**Indexes:**
- "spaces_pkey" PRIMARY KEY, btree (spaceid)
- "spaces_spacekey_key" UNIQUE, btree (spacekey)
- "s_spacedescid_idx" btree (spacedescid)
- "s_spacegroupid_idx" btree (spacegroupid)

**Foreign-key constraints:**
- "fk9228242d11b7bfee" FOREIGN KEY (homepage) REFERENCES content(contentid)
- "fk9228242d16994414" FOREIGN KEY (spacegroupid) REFERENCES spacegroups(spacegroupid)
- "fk9228242d2c72d3d2" FOREIGN KEY (spacedescid) REFERENCES content(contentid)

### Appearance

**decorator:** storage of custom display templates, for customising layouts.

### Miscellaneous

**os_propertyentry:** for arbitrary association of entities and properties.
Table "os_propertyentry"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>entity_name</td>
<td>character varying(125)</td>
<td>not null</td>
</tr>
<tr>
<td>entity_id</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>entity_key</td>
<td>character varying(200)</td>
<td>not null</td>
</tr>
<tr>
<td>key_type</td>
<td>integer</td>
<td></td>
</tr>
<tr>
<td>boolean_val</td>
<td>boolean</td>
<td></td>
</tr>
<tr>
<td>double_val</td>
<td>double precision</td>
<td></td>
</tr>
<tr>
<td>string_val</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>text_val</td>
<td>text</td>
<td></td>
</tr>
<tr>
<td>long_val</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>int_val</td>
<td>integer</td>
<td></td>
</tr>
<tr>
<td>date_val</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:  
"os_propertyentry_pkey" PRIMARY KEY, btree (entity_name, entity_id, entity_key)

**bandana:** a catch-all persistence layer. It contains things like user settings and space- and global-level configuration data, and is used as storage by plugins such as the Dynamic Task List plugin. Essentially, for storing arbitrary data that doesn't fit anywhere else.

Table "bandana"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>bandanaid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>bandanacontext</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>bandanakey</td>
<td>character varying(100)</td>
<td></td>
</tr>
<tr>
<td>bandanavalue</td>
<td>text</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:  
"bandana_pkey" PRIMARY KEY, btree (bandanaid)
"band_context_idx" btree (bandanacontext)
"band_key_idx" btree (bandanakey)

**extrnlnks:** storage of referral links.

Table "extrnlnks"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>linkid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>contenttype</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>viewcount</td>
<td>integer</td>
<td>not null</td>
</tr>
<tr>
<td>url</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>contentid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>creator</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmodifier</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:  
"extrnlnks_pkey" PRIMARY KEY, btree (linkid)
"el_contentid_idx" btree (contentid)

Foreign-key constraints:  
"fk97c10fe78dd41734" FOREIGN KEY {contentid} REFERENCES content {contentid}

**hibernate_unique_key:** used by the high/low ID generator - the subsystem which generates our primary keys. Mess with this at the cost of being able to create objects.

Table "hibernate_unique_key"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>next_hi</td>
<td>integer</td>
<td></td>
</tr>
</tbody>
</table>

**indexqueueentries:** arbitrates full-content indexing across the system. This table generally contains the last 12 hours or so of updates, to allow re-syncing of cluster nodes after restarts.
<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>entryid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>type</td>
<td>integer</td>
<td></td>
</tr>
<tr>
<td>handle</td>
<td>character varying(255)</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "indexqueueentries_pkey" PRIMARY KEY, btree (entryid)

### keystore

Used by the trusted apps framework to store the server's private key, and other servers' public keys.

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>keyid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>alias</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>type</td>
<td>character varying(32)</td>
<td>not null</td>
</tr>
<tr>
<td>algorithm</td>
<td>character varying(32)</td>
<td>not null</td>
</tr>
<tr>
<td>keyspec</td>
<td>text</td>
<td>not null</td>
</tr>
</tbody>
</table>

Indexes:
- "keystore_pkey" PRIMARY KEY, btree (keyid)

### links

Tracks links within the server (i.e. across and within spaces).

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>linkid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>destpagetitle</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>destspacekey</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>contentid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>creator</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmodifier</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "links_pkey" PRIMARY KEY, btree (linkid)
- "l_contentid_idx" btree (contentid)
- "l_destspacekey_idx" btree (destspacekey)

Foreign-key constraints:
- "fk45157998d41734" FOREIGN KEY (contentid) REFERENCES content(contentid)

### notifications

Storage of page- and space-level watches.

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>notificationid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>pageid</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>spaceid</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>username</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>creator</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmodifier</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "notifications_pkey" PRIMARY KEY, btree (notificationid)
- "n_pageid_idx" btree (pageid)
- "n_spaceid_idx" btree (spaceid)

Foreign-key constraints:
- "fk594acc8b2dc6081" FOREIGN KEY (spaceid) REFERENCES spaces(spaceid)
- "fk594acc88c38fbee5" FOREIGN KEY (pageid) REFERENCES content(contentid)

### pagetemplates

Acts as the back-end of the templates feature.
### Table "pagetemplates"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>templateid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>templatename</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>templatedesc</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>labels</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td>text</td>
<td></td>
</tr>
<tr>
<td>spaceid</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>prevver</td>
<td>bigint</td>
<td></td>
</tr>
<tr>
<td>version</td>
<td>integer</td>
<td>not null</td>
</tr>
<tr>
<td>creator</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmodifier</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "pagetemplates_pkey" PRIMARY KEY, btree (templateid)
- "pt_prevver_idx" btree (prevver)
- "pt_spaceid_idx" btree (spaceid)

Foreign-key constraints:
- "fkbc7e96a174d4a070" FOREIGN KEY (prevver) REFERENCES pagetemplates(templateid)
- "fkbc7e96ab2dc6081" FOREIGN KEY (spaceid) REFERENCES spaces(spaceid)

### Table "trackbacklinks"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>linkid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>contenttype</td>
<td>character varying(255)</td>
<td>not null</td>
</tr>
<tr>
<td>viewcount</td>
<td>integer</td>
<td>not null</td>
</tr>
<tr>
<td>url</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>title</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>blogname</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>excerpt</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>contentid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>creator</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>creationdate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
<tr>
<td>lastmodifier</td>
<td>character varying(255)</td>
<td></td>
</tr>
<tr>
<td>lastmoddate</td>
<td>timestamp without time zone</td>
<td></td>
</tr>
</tbody>
</table>

Indexes:
- "trackbacklinks_pkey" PRIMARY KEY, btree (linkid)
- "tbl_contentid_idx" btree (contentid)

Foreign-key constraints:
- "fkf6977a478dd41734" FOREIGN KEY (contentid) REFERENCES content(contentid)

**confancestors**: used to speed up permissions checks, by allowing quick lookup of all a page's ancestors.

### Table "confancestors"

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>descendentid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>ancestorid</td>
<td>bigint</td>
<td>not null</td>
</tr>
<tr>
<td>ancestorposition</td>
<td>integer</td>
<td>not null</td>
</tr>
</tbody>
</table>

Indexes:
- "confancestors_pkey" PRIMARY KEY, btree (descendentid, ancestorposition)

Foreign-key constraints:
- "fk9494e23c37e35a2e" FOREIGN KEY (ancestorid) REFERENCES content(contentid)
- "fk9494e23cc45e94dc" FOREIGN KEY (descendentid) REFERENCES content(contentid)

---

**Troubleshooting SQL Exceptions**

If you get an exception similar to those shown below, it is a good idea to increase the logging levels of your Confluence instance. If you request Atlassian support, this additional logging will help us work out the cause of the error.

Increased logging levels will enable us to diagnose errors like these:
This document outlines the steps to take to increase logging on your system.

### Changing the logging levels via the Administration Console

With Confluence 2.7 and later, you can adjust logging levels at runtime via the Administration Console — read the instructions. Below we tell you how to edit the log4j files directly.

1. Open `confluence/WEB-INF/classes/log4j.properties` and uncomment the following lines. The double `##` lines are comments, leave them intact.

   ```
   ## log hibernate prepared statements/SQL queries (equivalent to setting 'hibernate.show_sql' to 'true')
   #log4j.logger.net.sf.hibernate.SQL=DEBUG, confluencelog
   #log4j.additivity.net.sf.hibernate.SQL=false
   ## log hibernate prepared statement parameter values
   #log4j.logger.net.sf.hibernate.type=DEBUG, confluencelog
   #log4j.additivity.net.sf.hibernate.type=false
   ```

   If you can not locate these lines in your `log4j.properties` file, please add them to the end of it.

2. Restart Confluence.
3. Redo the steps that led to the error.
4. Zip up your logs directory and attach it your support ticket.
5. If you are using Oracle and received a constraint error, please ask your database administrator which table and column the constraint (that is, `CONFLUENCE.SYS_C0012345`) refers to and add that information to your support ticket.

### Related Topics

- Enabling detailed SQL logging
- Working with Confluence Logs
- Troubleshooting failed XML site backups

### Upgrading Confluence

This guide will tell you how to upgrade from one version of Confluence to a later version. Choose the type of installation you are upgrading, and follow the link to the installation instructions.

<table>
<thead>
<tr>
<th>Installation Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standalone distribution</td>
<td>The Standalone distribution is the simplest installation, using an Apache Tomcat application server bundled with the Confluence application. Choose this option if your existing Confluence installation is a Standalone deployment.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="If in doubt, this is the one you want." /></td>
</tr>
<tr>
<td>EAR/WAR distribution</td>
<td>Use this guide if you have deployed Confluence onto your own existing application server.</td>
</tr>
</tbody>
</table>
Upgrading to Confluence 3.0.2?

If so, please review the Confluence 3.0.2 Upgrade Notes for important information about this version of Confluence.

Also, it is strongly recommended that you check the upgrade notes for every major version of Confluence that you are skipping, since there might be specific changes between Confluence versions that could affect your Confluence installation. The upgrade notes pages for recent major versions of Confluence are accessible from the Upgrade Notes Overview page.

RELATED TOPICS

Confluence Installation Guide

Upgrading Confluence Standalone Distribution

This document tells you how to upgrade from one version of Confluence to a later version.

These instructions apply to:

- The Standalone Distribution of Confluence. The Standalone distribution includes Apache Tomcat as the standalone application server. If you want to upgrade an EAR/WAR distribution deployed on your own existing application server, please refer to Upgrading Confluence EAR-WAR Distribution.

Also, please check the new version of Confluence which you are installing. Refer to the documentation home page to verify the latest Confluence version and to find documentation for older versions.

On this page:

- Before you Start
- Backing Up
- Testing the Upgrade in a Test Environment
- Performing the Upgrade
- Reapplying Customisations to your New Confluence
- Troubleshooting the Confluence Upgrade

Upgrading a Cluster or Changing your Database?

- If you are running Confluence on a cluster, please see Upgrading a Confluence Cluster instead of this document.
- If you are planning to change to a different database, we recommend that you complete the Confluence upgrade first. Then follow the instructions on migrating to a different database.

Before you Start

1. Note that you need current software maintenance to perform the upgrade.
2. Confirm that your license support period is still valid before you try to upgrade.
3. If your current license has expired but you have a new license with you, please update your license in Confluence before performing the upgrade.
   
   If you forget to do this and your license has expired, you will receive errors during the upgrade process. Refer to the instructions on upgrading beyond current license period.
4. Check the release notes for the new version of Confluence you are installing, plus the upgrade notes for any major versions you are skipping. It is important to read these upgrade notes as there might be specific changes between Confluence versions that could affect your Confluence instance. The upgrade notes pages for recent major versions of Confluence are accessible from the Upgrade Notes Overview page. (Each upgrade notes page is a ‘child’ of its respective release notes page.)
   
   If you are upgrading from a version of Confluence prior to 2.5.5, the upgrade notes information is located under a heading on the release notes pages.
5. Make sure that your environment (e.g. the database system, the operating system, the application server and so on) still complies with the Confluence System Requirements. A newer version of Confluence may have different requirements than the previous version.
Before you begin the Confluence upgrade, you must back up the following:

1. **Back up your Confluence Home directory.**
   - The Confluence Home directory is the folder where Confluence stores its configuration information, search indexes and page attachments. If you're using the embedded HSQLDB database supplied for evaluation purposes, the database files are also stored in this directory.
   - Tip: Another term for 'Home directory' would be 'data directory'.
   - The location of the Home directory is stored in a configuration file called `confluence-init.properties`, which is located inside the `conf/Web-INF/classes` directory in your Confluence Installation directory.

2. **Back up your database.**
   - Perform a manual backup of your external database before proceeding with the upgrade, and double check that the backup was actually created properly. If you are not familiar with the backup-restore facilities of your database, you should try to restore the backup to a different system to ensure the backup worked, before proceeding. This recommendation is not specific to Confluence usage but just common sense: Surprisingly many companies, even banks, get in trouble for broken database backups.
   - The 'embedded database' is the HSQLDB database supplied with Confluence for evaluation purposes, you don't need to back it up since it is stored in the home directory. But you should not use this database for production systems anyway, so if you happen to accidentally still use HSQLDB in a production system, please migrate to a proper database before the upgrade.

3. **Back up your Confluence Installation directory** (if you are using Confluence Standalone) or your **Confluence webapp** (if you are using Confluence EAR-WAR edition).
   - The 'Confluence Installation directory' is the directory into which the Confluence application files and libraries have been unpacked (unzipped) when Confluence was installed. Confluence does not modify or store any data in this directory. This directory is also sometimes called the 'Confluence Install directory'.

### Testing the Upgrade in a Test Environment

**Be sure to test the upgrade in a test environment before proceeding on your production server.**

1. Create a snapshot of your current production Confluence environment on a test server, as described in the page on Moving Confluence Between Servers.
2. Perform the upgrade on your cloned environment.
3. Test all your unsupported plugins and any customisations with the new version before proceeding on your production server. You can read more about supported and unsupported plugins.

### Performing the Upgrade

**There is a common misconception** about upgrades: people seem to think that you have to export your attachments and database to a new location and start Confluence using those copies. **That is not the case!** While you need to make backups and ensure the backups work, the upgrade itself should be done using the **same** home-directory and database location. Read about the details here:

To install Confluence, unzip the new Confluence installation zip file into a directory of your choice and then edit the configuration files to point your new installation to your existing data files. Follow these instructions:

1. Shut down your existing Confluence instance.
2. Download the Confluence Standalone zip file.
3. **If you are on Windows**, please check your unzip program before extracting the downloaded zip file. Some archive-extract programs cause errors when unzipping the Confluence zip file. You should use a third-party unzip program like 7Zip or Winzip. If you do not have one, please download and install one before continuing:
   - 7Zip — Recommended. If in doubt, download the '32-bit.exe' version
   - Winzip
4. Use your unzip program to unzip the installation file. You should now have a new directory called `confluence-<version>`, e.g. `confluence-2.9.2-std`.
   - In the rest of this document, we will refer to this as the `<Installation-Directory>`.
   - If you decide to change the location from the default, make sure that you choose a different location from your existing Confluence installation, because legacy files may cause problems if you install the new Confluence version into an existing directory.
- Do not use spaces in your directory path.
- You can read more about the Confluence Installation directory.

5. Edit the `confluence-init.properties` file found at:
   `<Installation-Directory>/confluence/WEB-INF/classes/confluence-init.properties` and update `confluence.home` to point to your existing Confluence Home directory.
- You can read more about the Confluence Home directory.
- Make sure you have first backed up this directory, as instructed above.
- Open the `confluence-init.properties` file in a text editor such as Notepad.
- Scroll to the bottom and find this line:

   ```
   # confluence.home=c:/confluence/data
   ```

- Remove the `#` and the space at the beginning of this line, so that Confluence no longer regards the line as a comment. The line should now begin with `confluence.home`.
- Update the directory name after the `=` sign, to point to your existing Confluence Home directory.

6. If you are running Confluence as a Windows service, use `<Installation-Directory>/bin\tomcat5w.exe` to remove and reinstall the Tomcat service. Or use the command prompt and type `<Installation-Directory>/bin\service.bat remove Confluence`.

   It is vital that you stop and remove the existing service prior to uninstalling the old instance of Confluence! For more information on running Confluence as Windows service, please refer to the Start Confluence automatically on Windows as a Service topic.

   To remove the service installed by Confluence Auto Installer, you need to run the `<confluence auto installer installation folder>\UninstallService.bat`.

7. If you are using an external database (i.e. not the embedded HSQLDB database supplied for evaluation purposes), copy the `jdbc` driver jar file from your old Confluence Standalone installation to the new Confluence Standalone installation. The `jdbc` driver jar file in the old Confluence Standalone installation should be located in either the `<Install-Directory>/common/lib` or `<Installation-Directory>/confluence/WEB-INF/lib` directories. Once you have identified this file, copy it to either the `<Install-Directory>/lib` or `<Installation-Directory>/confluence/WEB-INF/lib` directories of your Confluence 3.x installation.

8. If you have delegated your user management to JIRA, LDAP, Crowd, or any other external user management system, copy the following files from your old Confluence installation to your new Confluence installation:
   - `<Installation-Directory>/confluence/WEB-INF/classes/osuser.xml`.
   - `<Installation-Directory>/confluence/WEB-INF/classes/atlassian-user.xml` (if you are upgrading from Confluence 2.2 or later).

   If you are upgrading from an earlier version of Confluence (2.5.5 and earlier) and are copying your existing `atlassian-user.xml` file from your previous instance, please ensure that the hibernate cache parameter in this file has been enabled, to avoid performance related issues. (NOTE: If you use Crowd for your user management, you do not need to do this.):

   ```
   <hibernate name="Hibernate Repository" key="hibernateRepository" description="Hibernate Repository" cache="true" />
   ```

9. If you have delegated your user management to Crowd, you will also need to copy the Crowd Client library and configuration files from your old Confluence installation to your new Confluence installation:
   - `<Installation-Directory>/confluence/WEB-INF/lib/crowd-integration-client-X.X.X.jar` and
   - `<Installation-Directory>/confluence/WEB-INF/classes/crowd.properties`

   If you need more information, please refer to the Crowd documentation.

10. Consider any adjustments you need to make to customisations and special configurations, as described below.

    Your new version of Confluence may not function correctly or could encounter problems or errors if these are not implemented.

11. Start your new version of Confluence.

    Please note that Confluence will need to re-index attachments and this can take 5-10 minutes. Please wait until Confluence has finished indexing the attachments before trying to access Confluence via your web browser.

12. During the startup process Confluence will create any missing database indexes. If you created any database indexes on your own, please check those afterwards and remove those that duplicate the indexes added by Confluence. Just in case you run into any errors which prevent Confluence from starting up, you can set the system property `hibernate.hbm2ddl.skip_creating_missing_indexes true` to skip automatic index creation.

13. Visit Confluence in your web browser and log in using a username from your previous Confluence installation. You should be able to log in immediately, without seeing the Setup Wizard.

14. Take a quick look around your Confluence site to confirm that all your spaces and pages are present and everything looks normal. You should see the new Confluence version number in the page footer.

**Reapplying Customisations to your New Confluence**
After upgrading your Confluence installation to a later version of Confluence, you need to consider any customisations you have applied to your system and other special configurations:

- If you had previously installed Confluence/Tomcat as a Windows service, uninstall the service (to ensure that the old Confluence cannot start automatically when the server restarts) and reinstall the new one. For details please see Start Confluence automatically on Windows as a Service.
- If you are using a Standalone Edition of Confluence and you have previously defined a CATALINA_HOME environment variable, please check that it points to the correct path for the new Confluence Tomcat server.
- If you had previously connected your Confluence installation to an external database via a JNDI datasource or you implemented SSL, edit your new web.xml file and and copy over any relevant modifications from your old web.xml file, which relate to these customisations.
- If you were previously running Confluence on a non-standard port, edit your new <Installation-Directory>/conf/server.xml file as described in Change listen port for Confluence Standalone.
- If you had previously defined a Tomcat datasource, edit your new <Installation-Directory>/conf/server.xml and copy over the datasource definition from your old server.xml.
- If you were previously using any plugins, install the latest compatible version and disable any plugins that are incompatible with your new version of Confluence. The easiest way to do this is to use the Plugin Repository in the Confluence Administration Console.
- If you are using any customised themes, please check that they are displaying as expected. Some further customisation may be required to ensure compatibility with your new version of Confluence.
- If you had previously customised the default site or space layouts, you will need to reapply your changes to the new defaults as described here.
- If you had previously modified the Confluence source code, you will need to reapply your changes to the new version.
- If you were previously running Confluence over SSL, you will need to reapply your configuration as described in Adding SSL for Secure Logins and Page Security.
- If you had previously modified the memory flags (Xms and Xmx) in either the <Installation-Directory>/bin/setenv.sh or the <Installation-Directory>/bin/setenv.bat file, you may want to make the modifications in your new installation. The parameters are specified in the JAVA_OPTS variable.
- If you had changed the Confluence interface text, you will need to pull over the ConfluenceActionSupport.properties file.
- If you were using a custom SSO authenticator or the utility to Automatically Add LDAP users to the confluence-users Group, change seraph-config.xml to the correct authenticator.

Troubleshooting the Confluence Upgrade

Refer to Troubleshooting Upgrades from the Confluence Knowledge Base.

RELATED TOPICS

Upgrading Confluence
Upgrading Confluence EAR-WAR Distribution
Confluence Installation Guide
Important Directories and Files
Site Backup and Restore
Database Configuration

Upgrading Confluence EAR-WAR Distribution

This document tells you how to upgrade from one version of Confluence to a later version.

These instructions apply to:

- The EAR-WAR Distribution of Confluence, deployed on your own existing application server. If you want to upgrade your Confluence Standalone distribution, which includes Apache Tomcat as the standalone application server, please refer to Upgrading Confluence Standalone Distribution.

Also, please check the new version of Confluence which you are installing. Refer to the documentation home page to verify the latest Confluence version and to find documentation for older versions.
Upgrading to Confluence 3.0.2?

If so, please review the Confluence 3.0.2 Upgrade Notes for important information about this version of Confluence.

Also, it is strongly recommended that you check the upgrade notes for every major version of Confluence that you are skipping, since there might be specific changes between Confluence versions that could affect your Confluence installation. The upgrade notes pages for recent major versions of Confluence are accessible from the Upgrade Notes Overview page.

On this page:
- Before you Start
- Backing Up
- Testing the Upgrade in a Test Environment
- Performing the Upgrade
- Reapplying Customisations to your New Confluence
- Troubleshooting the Confluence Upgrade

Upgrading a Cluster or Changing your Database?

- If you are running Confluence on a cluster, please see Upgrading a Confluence Cluster instead of this document.
- If you are planning to change to a different database, we recommend that you complete the Confluence upgrade first. Then follow the instructions on migrating to a different database.

Before you Start

1. Note that you need current software maintenance to perform the upgrade.
2. Confirm that your license support period is still valid before you try to upgrade.
3. If your current license has expired but you have a new license with you, please update your license in Confluence before performing the upgrade.
   - If you forget to do this and your license has expired, you will receive errors during the upgrade process. Refer to the instructions on upgrading beyond current license period.
4. Check the release notes for the new version of Confluence you are installing, plus the upgrade notes for any major versions you are skipping. It is important to read these upgrade notes as there might be specific changes between Confluence versions that could affect your Confluence instance. The upgrade notes pages for recent major versions of Confluence are accessible from the Upgrade Notes Overview page. (Each upgrade notes page is a 'child' of its respective release notes page.)
   - If you are upgrading from a version of Confluence prior to 2.5.5, the upgrade notes information is located under a heading on the release notes pages.
5. Make sure that your environment (e.g. the database system, the operating system, the application server and so on) still complies with the Confluence System Requirements. A newer version of Confluence may have different requirements than the previous version.
6. If you are using Confluence EAR-WAR edition, check Installing the Confluence EAR-WAR Edition for your specific application server, to see if there is anything extra you will need to do to get Confluence running. For example:
   - If you are using Confluence EAR-WAR edition, check Installing the Confluence EAR-WAR Edition for your specific application server, to see if there is anything extra you will need to do to get Confluence running.
7. If you are using an external database, familiarize yourself with all known issues for your specific database. Also make sure the Confluence database connector principal (the database user login) has sufficient permissions to modify the database schema.
8. Note which plugins are installed/enabled on your current Confluence instance. Please verify whether a compatible version of the plugin is available in the version of Confluence you are upgrading to. This information is available on the respective home pages for these plugins on the Confluence Extension space. Once you have confirmed the availability of compatible versions, you should upgrade your plugins after successfully upgrading Confluence. This can be done via the Plugin Repository Administration Console. Please test these first by applying them to the latest Confluence version in a test environment.
9. If you have made any customisations to Confluence, please verify their compatibility in the latest version. For example, if you have modified any layouts or are using your own custom theme, please test these first by applying them to the latest Confluence version in a test environment.

Backing Up

Before you begin the Confluence upgrade, you must back up the following:

1. **Back up your Confluence Home directory.**
   - The Confluence Home directory is the folder where Confluence stores its configuration information, search indexes and page attachments. If you're using the embedded HSQLDB database supplied for evaluation purposes, the database files are also stored in this directory.
   - Tip: Another term for 'Home directory' would be 'data directory'.
   - The location of the Home directory is stored in a configuration file called confluence-init.properties, which is located inside the confluence/WEB-INF/classes directory in your Confluence Installation directory.
2. **Back up your database.** Perform a manual backup of your external database before proceeding with the upgrade, and double check that the backup was actually created properly. If you are not a database expert, or unfamiliar with the backup-restore facilities of your database, you should try to restore the backup to a different system to ensure the backup worked, before proceeding. This recommendation is not specific to Confluence usage but just common sense: Surprisingly many companies, even banks, get in trouble for broken database backups.
The 'embedded database' is the HSQLDB database supplied with Confluence for evaluation purposes, you don't need to back it up since it is stored in the home directory. But you should not use this database for production systems anyway, so if you happen to accidentally still use HSQLDB in a production system, please migrate to a proper database before the upgrade.

3. **Back up your Confluence Installation directory** (if you are using Confluence Standalone) or **your Confluence webapp** (if you are using Confluence EAR-WAR edition).
   The 'Confluence Installation directory' is the directory into which the Confluence application files and libraries have been unpacked (unzipped) when Confluence was installed. Confluence does not modify or store any data in this directory. This directory is also sometimes called the 'Confluence Install directory'.

### Testing the Upgrade in a Test Environment

1. Create a snapshot of your current production Confluence environment on a test server, as described in the page on Moving Confluence Between Servers.
2. Perform the upgrade on your cloned environment.
3. Test all your unsupported plugins and any customisations with the new version before proceeding on your production server. You can read more about supported and unsupported plugins.

### Performing the Upgrade

The upgrade process allows you to unzip the new Confluence installation into a directory of your choice and then edit the configuration files to point your new installation to your existing data files. Follow these instructions:

1. Shut down your existing Confluence instance.
2. Download the Confluence EAR-WAR zip file: Go to the [Download Centre](https://confluence.org) and click 'Show all' to find the EAR-WAR zip file.
3. If you are on Windows, please check your unzip program before extracting the downloaded zip file. Some archive-extract programs cause errors when unzipping the Confluence zip file. You should use a third-party unzip program like 7Zip or Winzip. If you do not have one, please download and install one before continuing:
   - 7Zip — Recommended. If in doubt, download the '32-bit.exe' version
   - Winzip
4. Use your unzip program to unzip the installation file. You should now have a new directory called `<confluence-root> directory>`. The `confluence-root` directory is the directory into which the Confluence application files and libraries have been unpacked (unzipped) when Confluence was installed. Confluence does not modify or store any data in this directory. This directory is also sometimes called the 'Confluence Install directory'.
   - In the rest of this document, we will refer to this as the `<Installation-Directory>`.
   - Do not use spaces in your directory path.
   - You can read more about the Confluence Installation directory.

5. Edit the `<installation-root>/confluence-init.properties` file found at:
   `<Installation-Directory>/confluence/WEB-INF/classes/confluence-init.properties`
   and update 'confluence.home' to point to your existing Confluence Home directory.
   - Make sure you have first backed up your Home directory.
   - Open the `confluence-init.properties` file in a text editor such as Notepad.
   - Scroll to the bottom and find this line:

   ```
   # confluence.home=c:/confluence/data
   ```
   - Remove the '#' and the space at the beginning of this line, so that Confluence no longer regards the line as a comment. The line should now begin with `confluence.home`.
   - Update the directory name after the `=` sign, to point to your existing Confluence Home directory.

6. If you are using Tomcat, you need to update either your `confluence.xml` or `server.xml` (depending on where you have defined the Confluence context descriptor) to point to the location of the new Confluence installation (also remember to copy over any customisations such as a tomatc datasource if you have one).

7. If you have delegated your user management to JIRA, LDAP or any other external user management system, copy the following files from your old Confluence installation to your new Confluence installation:
   - `<installation-root>/confluence/WEB-INF/classes/osuser.xml`
   - `<installation-root>/confluence/WEB-INF/classes/atlassian-user.xml` (if you are upgrading from Confluence 2.2 or later).
   - If you are upgrading from an earlier version of Confluence (2.5.5 and earlier) and are copying your existing `atlassian-user.xml` file from your previous instance, please ensure that the hibernate cache parameter in this file has been enabled, to avoid performance related issues. (NOTE: If you use Crowd for your user management, you do not need to do this.):

   ```
   <hibernate name="Hibernate Repository" key="hibernateRepository" description="Hibernate Repository" cache="true" />
   ```

8. If you have delegated your user management to Crowd, you will also need to copy the Crowd client library and configuration files from your old Confluence installation to your new Confluence installation:
   `<installation-root>/confluence/WEB-INF/lib/crowd-integration-client-X.X.X.jar`
<Installation-Directory>/confluence/WEB-INF/classes/crowd.properties. If you need more information, please refer to the Crowd documentation.

9. Restart your application server and start Confluence.

Please note that Confluence will need to re-index attachments and this can take 5-10 minutes. Please wait until Confluence has finished indexing the attachments before trying to access Confluence via your web browser. (There is no easy and quick way to determine if the indexing process is completed. Please wait for approximately 10 minutes after the server start up before accessing Confluence via a web browser.)

10. During the startup process Confluence will create any missing database indexes. If you created any database indexes on your own, please check those afterwards and remove those that duplicate the indexes added by Confluence. Just in case you run into any errors which prevent Confluence from starting up, you can set the system property hibernate.hbm2ddl.skip_creating_missing_indexes true to skip automatic index creation.

11. Visit Confluence in your web browser and log in using a username from your previous Confluence installation. You should be able to log in immediately, without seeing the Setup Wizard.

12. Take a quick look around your Confluence site to confirm that all your spaces and pages are present and everything looks normal. You should see the new Confluence version number in the page footer.

13. Consider any adjustments you need to make to customisations and special configurations, as described below.

Reapplying Customisations to your New Confluence

Hint: The steps below are for advanced Confluence users, who have applied special settings to their Confluence server and/or Confluence look and feel

After upgrading your Confluence installation to a later version of Confluence, you need to consider any customisations you have applied to your system and other special configurations:

- If you had previously installed Confluence/Tomcat as a Windows service, uninstall the service (to ensure that the old Confluence cannot start automatically when the server restarts) and reinstall the new one. For details please see Start Confluence automatically on Windows as a Service.
- If you are using a Standalone Edition of Confluence and you have previously defined a CATALINA_HOME environment variable, please check that it points to the correct path for the new Confluence Tomcat server.
- If you had previously connected your Confluence installation to an external database via a JNDI datasource or you implemented SSL, edit your new web.xml file and and copy over any relevant modifications from your old web.xml file, which relate to these customisations.
- If you were previously running Confluence on a non-standard port, edit your new <Installation-Directory>/conf/server.xml file as described in Change port for Confluence Standalone.
- If you had previously defined a Tomcat datasource, edit your new <Installation-Directory>/conf/server.xml and copy over the datasource definition from your old server.xml.
- If you were previously using any plugins, install the latest compatible version and disable any plugins that are incompatible with your new version of Confluence. The easiest way to do this is to use the Plugin Repository in the Confluence Administration Console.
- If you are using any customised themes, please check that they are displaying as expected. Some further customisation may be required to ensure compatibility with your new version of Confluence.
- If you had previously customised the default site or space layouts, you will need to reapply your changes to the new defaults as described here.
- If you had previously modified the Confluence source code, you will need to reapply your changes to the new version.
- If you were previously running Confluence over SSL, you will need to reapply your configuration as described in Adding SSL for Secure Logins and Page Security.
- If you had previously modified the memory flags (Xms and Xmx) in either the <Installation-Directory>/bin/setenv.sh or the <Installation-Directory>/bin/setenv.bat file, you may want to make the modifications in your new installation. The parameters are specified in the JAVA_OPTS variable.
- If you had changed the Confluence interface text, you will need to pull over the ConfluenceActionSupport.properties file.
- If you were using a custom SSO authenticator or the utility to Automatically Add LDAP users to the confluence-users Group, change seraph-config.xml to the correct authenticator.

Troubleshooting the Confluence Upgrade

Refer to Troubleshooting Upgrades from the Confluence Knowledge Base.

RELATED TOPICS

Upgrading Confluence
Upgrading Confluence Standalone Distribution
Confluence Installation Guide
Important Directories and Files
Site Backup and Restore
Database Configuration

Upgrading Beyond Current Licensed Period

This page explains the recovery process should you mistakenly try to upgrade your Confluence installation to a version beyond your current license entitlement.
The information on this page applies to Confluence 2.7.2 and later.

**License Warnings**

During an upgrade an obvious indication that your license has expired can be found in your log file. You will see a 'WARN' level entry similar to this:

```
[confluence.upgrade.impl.DefaultUpgradeManager] isUpgradeAllowed
Your license is now outside of it's support period. You need to renew the license before you can upgrade to this version of Confluence.
```

When you try to connect to the Confluence instance, you will see the following warning screen:

<table>
<thead>
<tr>
<th>Time</th>
<th>Level</th>
<th>Type</th>
<th>Description</th>
<th>Exception</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-02-04 10:51:04</td>
<td>null</td>
<td>(EventType: upgrade)</td>
<td>Cannot proceed with upgrade. Your current license does not entitle you to upgrade to this version of Confluence. Please check that the support period of your license has not expired or that you have the correct partner license. If you wish to renew your license, please contact <a href="mailto:sales@atlassian.com">sales@atlassian.com</a>. If you have a new license, please enter it on this [page] and restart.</td>
<td>fatal</td>
</tr>
</tbody>
</table>

**Updating the Confluence License**

1. Contact [Atlassian Sales](http://www.atlassian.com) to arrange for a new license to be issued, as instructed on the warning screen illustrated above.
2. Once you have received a suitable license, supply the license key to Confluence:
   - Click the link given on the license warning screen, illustrated above.
   - You will first be asked to log in as a Confluence administrator.
   - Then you will be presented with a simplified license administration screen. Enter the credentials of a Confluence system administrator.
   - Copy the license key into the 'License' field and click 'Save':

```
Save
```

3. Restart Confluence to continue the upgrade.

**RELATED TOPICS**

Upgrading Confluence

Administrators Guide Home  Confluence Documentation Home

**How to run a SQL script on your database**

This document contains some basic instructions on how to run a SQL script on your database. This document is not intended to be exhaustive of the databases we support. We still recommend that you ask your DBA to perform this task if possible.

The following examples assume a database name of yourdb and a script file called myscript.sql. Of course, the extension of the SQL script file does not have to be .sql. Any file can be used so long as it contains SQL statements.
Webserver Configuration

Apache and Apache Connector Tips

Configure Web Proxy Support for Confluence

The speed of downloading attachments is extremely slow. We are experiencing the following speeds

- Large file served directly through Apache: 15000 KB/sec
- Large file served directly from Tomcat HTTP connector: 14500 KB/sec
- Large file served from Confluence (using Apache/mod_jk/Tomcat): 84 KB/sec

You can see that the file served from Confluence is ~176 times slower!

Solution

We upgraded mod_jk from version 1.2.8 to 1.2.10 and the download speed improved significantly to ~12000 KB/sec.

Configure Web Proxy Support for Confluence

Some of Confluence's macros, such as {rss} and {jiraissues} need to make web requests to remote servers in order to retrieve data. If Confluence is deployed within a data-centre or DMZ, it may not be able to access the Internet directly to make these requests. If you find that the {rss} macro does not work, ask your network administrator if Confluence needs to access the Internet through a web proxy.

Configuring an outbound HTTP proxy in Confluence

Proxy support is configured by passing certain system properties to the Java Virtual Machine on startup. These properties follow the conventions defined by Sun:

- http.proxyHost
- http.proxyPort (default: 80)
- http.nonProxyHosts (default: <none>)

At a minimum, you need to define http.proxyHost to configure an HTTP proxy. System property configuration is described on the Configuring System Properties page.

Properties http.proxyHost and http.proxyPort indicate the proxy server and port that the http protocol handler will use.

-Dhttp.proxyHost=proxy.example.org -Dhttp.proxyPort=8080

Property http.nonProxyHosts indicates the hosts which should be connected to directly and not through the proxy server. The value can be a list of hosts, each separated by a [, and in addition a wildcard character (*) can be used for matching. For example:

-Dhttp.nonProxyHosts=*.foo.com|localhost

Note: You may need to escape the pipe character (|) in some command-line environments.

If the http.nonProxyHosts property is not configured, all web requests will be sent to the proxy.

Configuring HTTP proxy authentication

Proxy authentication is also configured by providing system properties to Java in your application server's configuration file. Specifically, the following two properties:

- http.proxyUser – username
- http.proxyPassword – secret
Authentication has a few more options in Confluence 2.10 and later, as documented below.

**HTTP proxy (Microsoft ISA) NTLM authentication (2.10 and later)**

Confluence 2.10 and later supports NTLM authentication for outbound HTTP proxies when Confluence is running on a Windows server.

To clarify, this means the {rss} and {jiraissues} macro will be able to contact external websites if requests have to go through a proxy that requires Windows authentication. This support is not related to logging in Confluence users automatically with NTLM, for which there is a user-contributed authenticator available.

To configure NTLM authentication for your HTTP proxy, you need to define a domain system property, `http.auth.ntlm.domain`, in addition to the properties for host, port and username mentioned above:

```
-Dhttp.auth.ntlm.domain=MYDOMAIN
```

**Configuring authentication order (2.10 and later)**

Sometimes multiple authentication mechanisms are provided by an HTTP proxy. If you have proxy authentication failure messages, you should first check your username and password, then you can check for this problem by examining the HTTP headers in the proxy failure with a packet sniffer on the Confluence server. (Describing this is outside the scope of this document.)

To set the order for multiple authentication methods, you can set the system property `http.proxyAuth` to a comma-separated list of authentication methods. The available methods are: ntlm, digest and basic; this is also the default order for these methods.

For example, to attempt Basic authentication before NTLM authentication, and avoid Digest authentication entirely, you can set the `http.proxyAuth` property to this value:

```
-Dhttp.proxyAuth=basic,ntlm
```

**Troubleshooting**

1. There’s a diagnostic jsp file in CONF-9719 for assessing the connection parameters.
3. Autoproxies are not supported yet. See CONF-16941.

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**Confluence Development Hub**

⚠️ Please keep in mind that customisations are beyond the scope of what's covered by Atlassian Support.

**Developing Plugins**

**Getting started with Atlassian plugins**

This tutorial will show you how to set up your development environment, create an empty plugin template, and the basic principles of building, debugging, and testing a plugin. It will take you through the prerequisites and introduce you to some of the resources that Atlassian provides for plugin developers.

**The Confluence Plugin Guide**

These documents are specifically about plugins for Confluence. There’s a page for each plugin module type that Confluence supports. You can combine multiple plugin modules inside a single plugin to accomplish complex tasks.

**Understanding Confluence Source Code**

**Building Confluence From Source Code**

This document gives instructions on how to build a .war file or an IDE project from Confluence’s source distribution.
Understanding Confluence's Architecture

These documents go some of the way to explaining what's really going on inside Confluence. Some of this information is useful to plugin developers. Other pieces are more relevant to the Confluence development team, but we've published them here in the spirit of open documentation.

Other resources

Installing Confluence Plugins

- Configuring the Office Connector
- Installing and Configuring Plugins Manually
- Installing and Configuring Plugins using the Plugin Repository Client
- Plugin loading strategies in Confluence
- Removing Malfunctioning Plugins
- Enabling and Configuring Macros

Customising Confluence Page Exports

Modify the style or content of the following page exports:

- Available Velocity Context Objects in Exporters
- Customise Adobe PDF Exports
- Customise MS Word Exports

Remote API

- Remote API Specification

Confluence Single Sign-On

- Single Sign-on

Help and Documentation

- Confluence Developer FAQ
- Confluence Developer Forum
- Confluence API Documentation
- Atlassian Partner listing

Building Confluence From Source Code

This guide describes building a confluence.war distribution or an IDE project from the Confluence source code. Plugin developers who wish to use source code as an aid in building plugins should refer to the plugin documentation. This process should be simple and quick, so please let us know if you get stuck.

Building a WAR distribution

1. Download Confluence source code.

   Source code access is available for commercial license holders. If you do not have access to the source code download site, log in to my.atlassian.com as your billing contact or contact our sales department.

   Please be aware that while Confluence's source code is available to licensed customers, this does not apply to the Confluence Office Connector.

2. Confluence is built using Maven. Maven is bundled with the source distribution and therefore does not need to be installed separately. When you build Confluence, Maven will download dependencies and store them in a local repository. One of these dependencies requires manual installation for legal distribution reasons. If you do not already have it in your private repository, download JavaMail from Sun's website.
Sun will not allow Maven to redistribute its binaries. You must install all Sun binaries manually by downloading them from Sun's website and running the `mvn install` command. Maven has provided documentation for both 3rd party jars in general and Sun jars in particular.

Unzip the `mail.jar` file from the `javamail-1_x_x.zip` file. From the root of your extracted source code directory, run the following command, where `Path/To/mail.jar` is the absolute path to the extracted `mail.jar` file:

```bash
./maven/bin/mvn install:install-file -DgroupId=javax.mail -DartifactId=mail -Dversion=1.x.x -Dpackaging=jar -Dfile=Path/To/mail.jar
```

3. Run your build script.

If the build is run successfully you should have a `confluence.war` file created in `../<confluence-project>/dist/`.

**Option 1: Building the Confluence Project or Individual Libraries using IDEA**

This is the simplest option. From IDEA, go to File >> Open Project. Browse to the `pom.xml` file of the individual project. If you are wanting to compile the Confluence project (as opposed to one of the libraries, say Atlassian User), use the `pom.xml` file from the `confluence-project` file.

Using the `pom.xml` at the root of the distribution to load the Confluence project and all its dependencies usually results in classloading errors. If you want to debug a dependency and the confluence core together, you'll have to integrate the projects.

**Option 2: Building the Confluence Project or Individual Libraries Using Maven**

Each Confluence Library is bundled with its own Maven `pom` file. To build one of the sub-projects, you need not build the entire source. To use the bundled maven distribution:

1. Copy `build.sh` or `build.bat` to the appropriate sub-directory.
2. Change `M2_HOME` to point to the parent directory, as so:
   ```bash
   export M2_HOME="$PWD/../maven
   ```
   ```bash
   set M2_HOME=../maven
   ```

**Building an IntelliJ Idea or an Eclipse project**

1. To build a project for an IDE, you can use the instructions above, but modify the `build.sh` or `build.bat` `mvn` command. Replace:

   ```bash
   exec mvn clean package -Dmaven.test.skip $* with:
   ```

   ```bash
   exec mvn idea:idea or exec mvn eclipse:eclipse
   ```

This should leave a project file in the root of your source directory. It should have all the confluence modules.

2. Download IntelliJ IDEA.
3. Install Tomcat and get it running.
5. From Preferences > Application Servers add Tomcat
6. From Run > Edit Configurations, add a Tomcat Configuration. Select to deploy the confluence-webapp module to the appserver:

7. Click Configure and configure how to deploy. Choose to Create web module exploded directory and exclude from module content:
8. From the server tab, you might set some memory settings like:

```
-XX:MaxPermSize=256M -Xmx512m
```

9. Run the application. Have fun!

**Creating a Server for Eclipse**

In Eclipse creating a server defines creating a pointer to an existing installation of an application server.

To create a server:

- **Window->Show View->Servers**
- Right Click and select **New->Server**

In the menu bar click **File->New->Other** and expand the server folder and select the version of the server you have installed on your system. Click Next and the New Server wizard opens. This wizard defines a new server, that contains information required to point to a specific runtime environment for local or remote testing, or for publishing to an application server. By default, this field is pre-filled with the default address: localhost

Supported Servers in Eclipse:

![New Server Wizard](image)

1. Eclipse view after adding Tomcat
Troubleshooting and Technical Support

If you get a class not found error, you may need to replace a jar file in your maven repository. Try our [forums].

Atlassian encourages our community to make use of our source code. Please be aware that upgrades may require additional modifications.

Source code modifications are not supported by Atlassian Support.

RELATED TOPICS:
FAQ and Troubleshooting
How to Build an Atlassian Plugin
Working with Sun Java Libraries

Confluence Architecture

Introduction

These pages are internal developer documentation for Confluence. The main audience for these documents is Atlassian developers, but hopefully plugin and extension developers might benefit from knowing more about how the application works. There are, however, a few caveats:

1. This documentation is incomplete. All system documentation is a work in progress, and more documents will come online as they are written. (This is, after all, a wiki.)
2. Confluence has been in development since 2003, much longer than these documents have existed. There are many parts of the application that do not follow these guidelines, and some of the architecture documents represent how things should be from now on rather than how they were in the past

Understanding Confluence

These documents should give you some understanding of how the Confluence code-base is structured, where to find things, and where to put new things.

• High Level Architecture Overview
• Confluence Permissions Architecture
Developer Guidelines

These documents are more general descriptions of How We Do Things Around Here. It's a good idea to be familiar with these documents, but keep in mind that no rule is set in stone, and the existence of a guideline does not absolve you from your responsibility to think.

- Spring Usage Guidelines
- Exception Handling Guidelines
- Logging Guidelines
- Deprecation Guidelines
- Hibernate Sessions and Transaction Management Guidelines
- Javadoc Standards

Anti-XSS documentation

This feature is present in Confluence 2.9 and later

This documentation is aimed at developers. It contains information necessary to get Velocity template rendering to function correctly when Confluence has the "Anti XSS mode" option enabled. This option is disabled by default in Confluence 2.9 to allow plugin developers time to adapt for any incompatibilities in their plugins and to shake out any problems in the implementation, but we hope to make it standard and mandatory in future releases.

- What is Anti XSS mode?
- Automatic reference encoding in Velocity templates
- How does it work?
- Opt-ing out of automatic HTML encoding
  - HtmlSafe method annotation
  - Method naming convention
  - Well known HTML returning methods
  - Reference naming convention
- Migration strategy for template authors
- Caveats

What is Anti XSS mode?

This mode will engage certain behaviours in Confluence intended to reduce the incidence of cross site scripting (XSS) vulnerabilities. At present this mode enables an automatic data encoding strategy designed to reduce XSS exploits arising from the incorrect encoding of data embedded in HTML templates.

Developers interested in extending this XSS protection feature to their plugins should consult the Enabling XSS Protection in Plugins document.

Automatic reference encoding in Velocity templates
Many of the past XSS vulnerabilities in Confluence have arisen simply because data from untrusted sources have not been encoded correctly when mixed with other HTML in Velocity templates. Such encoding failures lead to possible HTML injection attacks that can range from breaking page rendering, to hijacking user sessions. These security bugs will always be easily introduced when template authors have to make a conscious decision to specifically encode untrusted data when rendered. Other disadvantages of this opt-in security include a proliferation of noise in templates related directly to encoding operations ($generalUtil.htmlEncode et al) and a general obscuration of where data are being written unsafely to the client. In future releases of Confluence we will be attempting to transition to a new rendering mode where all data will be HTML encoded by default unless steps are taken explicitly to avoid this behaviour in templates.

**How does it work?**

This new mode of behaviour takes advantage of two new facilities introduced into the Velocity templating engines during the 1.4 and 1.5 releases. (Confluence originally shipped with Velocity 1.3 but was upgraded to Velocity 1.5 in the 2.7 release). In short there are two parts of the system:

1. A mechanism for marking data as being safe for HTML rendering.
2. A mechanism for encoding any data not marked as safe as it is being written to the output.

**Opt-ing out of automatic HTML encoding**

While we'd recommend that as much of your HTML markup be contained in actual Velocity templates, many templates acquire HTML markup via method calls and property access to Java objects in the Velocity context and very often the result is written directly to the output. In this situation we need to inform the Velocity renderer that these values are intended to contain HTML and should not be encoded when written. There are a few ways to accomplish this.

**HtmlSafe method annotation**

For values retrieved by calling methods or accessing properties of objects in the context, it is possible to inform the Velocity system that these values are safe to be written without encoding. This is achieved by annotating the method (whether a property getter or not) with the `@HtmlSafe` annotation.

**An annotated Java class**

```java
import com.atlassian.confluence.velocity.htmlsafe.HtmlSafe;

public class MyContextClass {
    @HtmlSafe
    public String myMarkupReturningMethod() {
        return "<b>This method returns marked up text!</b>";
    }

    public String myMethodWithAnXssExploit() {
        return "<script>alert('owned');</script>";
    }
}
```

**Using an instance of this class in a template**

```html
<ol>
    <li>$objectOfMyContextClass.myMarkupReturningMethod()</li>
    <li>$objectOfMyContextClass.myMethodWithAnXssExploit()</li>
</ol>
```

**Result when Anti-XSS is disabled**

```html
<ol>
    <li><b>This method returns marked up text!</b></li>
    <li><script>alert('owned');</script></li>
</ol>
```

**Result when Anti-XSS is enabled**

```html
<ol>
    <li><b>This method returns marked up text!</b></li>
    <li>&amp;lt;script&amp;gt;alert('owned')+&amp;lt;/script&amp;gt;</li>
</ol>
```

**Method naming convention**
Retrofitting this type of behaviour into an existing, significant codebase with an extensive plugin catalogue is very difficult and we'd like to make this new behaviour fit in as well as possible with the existing body of work. For this reason certain methods will automatically be deemed as being HtmlSafe:

- Those that start with `render` or `getRender`
- Those that end with `Html`

This strategy fits in with the observation that many of the existing methods that return HTML were named according to this convention. It also provides a mechanism for avoiding automatic encoding where Java 5 annotations are not an option.

**Well known HTML returning methods**

A few often used methods are known to return HTML by contract. These methods are therefore also treated as HtmlSafe by default.

- `com.opensymphony.util.TextUtils#htmlEncode`
- `com.opensymphony.webwork.util.VelocityWebWorkUtil#htmlEncode`

This means that any uses of these methods will behave identically whether or not the anti-XSS mode is engaged. It is important to note that `GeneralUtil.htmlEncode()` has been annotated as HtmlSafe and will also behave identically without any modification to uses in templates.

**Reference naming convention**

To cater for cases where HTML strings are built entirely in a Velocity template and then rendered, it is possible to avoid the auto encoder by using a "Html" suffix on the reference name.

**Template**

```
#set ($someHtml = "<p>This is a paragraph</p>"
#set ($some = $someHtml)

<ul>
<li>$someHtml
<li>$some
</ul>
```

**Output**

```
<ul>
<li><p>This is a paragraph</p>
<li>&lt;p&gt;This is a paragraph&lt;/p&gt;
</ul>
```

**Transitional reference name exclusion**

The velocity template reference `$body` will also avoid automatic encoding for the time being. Many templates use this convention to include whole slabs of HTML sourced from other rendering mechanisms. This exclusion is very likely to be removed in the future so it is strongly recommended that all such references be changed to make use of the standard "html" suffix as described previously.

**Migration strategy for template authors**

To ensure that your HTML markup will function correctly now and in the future here are some guidelines of working with the Anti-XSS feature:

- **Don't stop using `htmlEncode` methods just yet** – As the automatic HTML encoding feature is disabled by default it is still necessary to make sure that any unsafe data is explicitly HTML encoded before being written. Encoding the data explicitly behoves identically whether automatic HTML encoding is enabled or not. In the future we are hoping to make this the standard behaviour of templates in Confluence, allowing template authors to remove all such explicit encoding calls from templates.
- **Try to move all of your HTML markup to Velocity templates** – The more that your markup is contained in templates, the less intrusive the automatic encoding system will be. This is a good design choice in general as markup in templates is far more maintainable than static strings in Java classes.
- **Mark any other HTML data as being HtmlSafe** – methods that return HTML markup that cannot be contained in templates such as data sourced from user input or other remote retrieval need to be marked as HtmlSafe or assigned to a Velocity reference ending in the string Html before use. Consider using the HtmlFragment class for a richer, HtmlSafe description of the data that you are returning. The fewer sources of HtmlSafe data the better the security of the system.
- **Move away from relying on the transitional `$body` reference encoding exclusion** – To keep the system as consistent as possible, usages of `$body` in templates that include HTML fragments should be changed to use either a "html" suffix or the HtmlFragment class.
- **Use the system property `confluence.html.encode.automatic` to test your templates** – you can enable and disable the automatic encoding functionality in Confluence via this command line JVM system property, handy for automated test suites.
- **Raise any issues you have** – If you think we can do something better or make it easier for you to write templates and plugins that support this new mechanism we'd love to hear from you.

Developers interested in more advanced details and use-cases should consult the Advanced HTML encoding documentation.
Caveats

As much as we'd love to make the new HTML encoding system transparent to use there are a few things that you need to watch out for.

Velocity string interpolation

The Velocity configuration of Confluence allows you to use reference interpolation in any strings you construct in a Velocity template.

As can be seen from this example, automatic HTML encoding will occur when references are interpolated inside strings in the same manner as when they are written to the template output. At present there is no way to treat this case specially and you will need to make sure that any data used as part of interpolation is being treated correctly by the encoder.

String parameters

Occasionally you may have some code in your velocity template that makes a call back to some Java logic. To make sure that the value is being protected by the Anti-XSS mechanism, you must have the string evaluate within the velocity template. If not, you are passing a reference into the Java code which will not be protected.

You should write the velocity template like this:

$$object.doSomething("\$action.getValue()")$$

The quotes around the $action.getValue() call mean velocity will evaluate it before passing it into object.doSomething() and have a chance to be automatically encoded before being passed to the Java method.

Accessing action context values

Templates rendered from a Webwork Velocity result are able to access values on Webwork's action stack as if they were entries in the Velocity context. If these values are sourced from getter methods on the current action the automatic encoding system cannot detect whether the getter method has been marked as HtmlSafe. In this situation the value will be automatically encoded when rendered regardless of any annotation or method naming convention used by the source of the value.

To remedy this either use the HtmlSafe reference naming convention (e.g. assigning the action context value to a context variable ending with HtmlSafe) or retrieve the value directly from the current action via the $action reference.

Unexpected context types

Some Java code may use the Velocity context as a data passing mechanism to collect information from a template after it is rendered.

$$public class DataHolder {$$
    $$@HtmlSafe$$
    $$public String getHtml() {$$
        $$return "<strong>My html</strong>";$$
    $$}$$
$$}$$

$$myTemplate$$

$$#set ($result = data.getHtml())$$

$$Template myTemplate = getTemplate();$$
$$Context myContext = new VelocityContext();$$
$$myContext.put("data", new DataHolder());$$
$$renderTemplate(myTemplate, myContext);$$
$$String message = (String) myContext.get("result");$$

The above Java code will fail with a ClassCastException at runtime because the reference $result will not be an instance of String but an instance of BoxedValue due to the way that Confluence’s Velocity runtime handles HtmlSafe values in the Velocity context. If there is demand it is feasible for type compatibility to be restored in this situation via the use of a transparent, unboxing context layer but in general
this mechanism of information passing is discouraged. Context values that are not set from HtmlSafe sources are not affected in this situation.

**Advanced HTML encoding**

**Advanced automatic encoding topics**

**Collection inheritance**

In some cases a method may return a collection of values, each of which contain HTML markup to be treated literally in a Velocity template. If a collection returning method is marked as HtmlSafe, then all of its members will be treated as HtmlSafe as well should they be written to a Velocity template.

More precisely, a value retrieved from a HtmlSafe collection will be treated as HtmlSafe in the following situations:

- The element is retrieved via:
  - `java.util.List#get(index)`
  - `java.util.Map#get(key)`
- The element is reached via an iterator returned by `java.util.Collection#iterator()` (as is the case when a collection is used with the Velocity `#foreach` statement.)

**HtmlFragment**

One of the things that has become painfully obvious in the implementation of this system is the inadequacy of the `String` class for returning markup. The need for a HtmlSafe annotation is only necessary because a `String` return type does not convey any information about the data returned other than it is a sequence of characters. The `com.atlassian.confluence.velocity.htmlsafe.HtmlFragment` class is a type that can be used to indicate that the `toString()` method of a particular object returns markup to be interpreted as literal HTML during rendering.

```java
HtmlFragment aHtmlFragment = new HtmlFragment("<span>This string contains literal HTML</span>");
HtmlFragment anotherHtmlFragment = new HtmlFragment(new MyHtmlClass());
```

The `HtmlFragment` class' `toString()` method delegates to the wrapped object's `toString()` method and will be treated as being safe for use in HTML templates. This is useful for adding your own HtmlSafe values directly to a Velocity context or as a return type for methods returning HTML markup.

**VelocityUtils HTML detection heuristic**

The `com.atlassian.confluence.utils.VelocityUtils` class defines methods of the form `getRenderedTemplate` for convenient rendering of a template to a `String`. Unfortunately the only information available to this mechanism is the template name and Velocity context, neither of which indicate directly whether the template is to be used for HTML output. At present the rendering strategy used by these methods will try to determine whether a template contains HTML-like markup and will only employ the auto encoding mechanism should such markup be detected. It is likely that this method of template rendering will be deprecated in the short term and replaced by a more expressive, safer system.

**PossibleIncorrectHtmlEncodingEventHandler**

To help track down any Velocity reference that might be encoded incorrectly, Confluence attaches a logging event listener to the Velocity context. This event listener will print the reference name and the template that contains the reference if the reference value contains HTML like markup (either element markup or encoded entities) but the reference hasn't been marked as HTML safe. Naturally some values may contain HTML markup that are not meant to be interpreted as literal HTML, as is the case in HTML injection attacks.

This event listener will only be active if the log4j logger category `com.atlassian.confluence.velocity.htmlsafe.PossibleIncorrectHtmlEncodingEventHandler` has been set to log at INFO.

**The boxing uberspect**

Confluence employs a specialisation of Velocity's pluggable, federated introspection strategy known as an Uberspect. The Velocity runtime delegates all method calls, property accesses and iterator strategy retrieval via the configured uberspect. The default Velocity uberspect implementation provides all of the facilities to call methods and access properties of objects in the Velocity context by making heavy use of the Java reflection API. It also provides the mechanism for case insensitive property access, Velocity's map getter syntactic sugar and uses an internal introspection cache to optimise performance.

To enable the tracking of values retrieved from HtmlSafe sources, Confluence is configured to use a specialised uberspect that boxes any `ReturnValueAnnotation` annotations with the method return value. Return values from method calls that do not have any such annotations are treated exactly as before. Of course any of these uberspect boxed values may be subsequently used as arguments or targets of other method calls, so the annotation boxing uberspect is also responsible for unboxing these values before a method is executed, providing a mostly transparent operation.

For those developers who are more interested in the exact implementation details, you will want to examine the source of the classes in the new `com.atlassian.confluence.velocity.introspection` package, with the `AnnotationBoxingUberspect` being the best place to start.
Enabling XSS Protection in Plugins

This documentation is aimed at developers. In Confluence 3.0, Anti-XSS mode is enabled by default for the core Confluence application, but in order to prevent this configuration change from breaking plugins, plugin authors must opt in to extend the protection to their own templates.

- What is Anti-XSS?
- Why should I have my plugin opt in to Anti-XSS protection?
- How do I opt in to Anti-XSS protection?
- A note on naming

What is Anti-XSS?

Anti-XSS is a safeguard placed on Velocity template files that automatically HTML encodes inserted variables, therefore protecting against potential cross-site scripting vulnerabilities. It was introduced in Confluence 2.9, and enabled by default in Confluence 3.0. For more information, read the Anti-XSS documentation.

Why should I have my plugin opt in to Anti-XSS protection?

Cross site scripting is a real and dangerous security problem with many web applications. Anti-XSS protects against many potential sources of XSS vulnerabilities. Opting in to Anti-XSS protection requires very little effort, and results in a safer plugin.

Atlassian may make Anti-XSS apply automatically to Confluence plugin templates in the future, so by opting in now you save yourself from your plugin maybe breaking in a future Confluence update.

How do I opt in to Anti-XSS protection?

There are three mechanisms to mark that your Velocity template should have Anti-XSS protection applied to it:

- Give the template's filename a .html.vm suffix (i.e. mypage.html.vm)
- Place the template in a directory called html (i.e. /templates/html/mypage.vm)
- Put the Velocity directive call #htmlSafe() somewhere in the template.

If you do any (or any combination) of the above, any variable substitution performed in your Velocity template will be HTML-encoded under the rules described in the Anti-XSS documentation.

A note on naming

You may notice that the #htmlSafe() velocity directive (which causes a template to opt in to Anti-XSS protection) has the opposite meaning to the @HTMLSafe Java annotation (which causes a Java method to opt out of Anti-XSS protection). We regret this confusing naming and hope to fix it in a future release, but unfortunately we didn’t catch it in time to fix for 3.0. We will, however, ensure that #htmlSafe() continues to work.

Confluence Internals

Confluence is a large and complex application. This area documents some of the more complicated aspects of its design. For a complete reference, please refer to the source code which is available for download with all commercial licenses.

- Bandana caching
- Character encodings in Confluence
- Confluence Caching Architecture
- Confluence Internals History
- Confluence Permissions Architecture
- Confluence Services
- Confluence UI architecture
- Date formatting with time zones
- HTML to Markup Conversion for the Rich Text Editor
- HTTP authentication with Seraph
- I18N Architecture
- Page Tree API Documentation
- Password Hash Algorithm
- Persistence in Confluence
- Spring IoC in Confluence
- Technical Overview of Clustering in Confluence
- Velocity Template Overview

Bandana caching

Introduction
This is a technical description of Confluence's Bandana caching mechanism. It is primarily designed for Confluence developers, but published here because it might prove useful to some plugin developers.

For an overview of all of Confluence's persistence mechanisms, see Persistence in Confluence.

Confluence's Bandana subsystem is used for persisting configuration settings for Confluence and its plugins. Any persistence mechanism requires careful thought with regard to updates. Transactions are the main mechanism for controlled updates to shared data, and it's important that transactions are treated consistently across all the subsystems involved.

Confluence 2.3 has moved Bandana data to the database in order for it to be shared among clustered nodes. Using Hibernate meant that the updates done to the database were immediately transactional, but the Bandana caching layer still needed to be updated to be transaction-aware.

This document describes the caching system used by Bandana in Confluence 2.3 which allows it to deal correctly with transactional updates. The caching system may be used more extensively for other areas in Confluence going forward.

Caching layer

The caching layer for Bandana is necessary because all the data is persisted as XML. When configuration objects are retrieved from the data store, they are deserialized back into Java objects via XStream. This deserialization occurs after the XML has been retrieved by Hibernate, and is a time-consuming process. Because Bandana objects are used so frequently (at least one per request), a cache of configuration objects, independent of the Hibernate cache of XML, is required.

The interaction between the key components in the Bandana caching system is shown in the flowchart below.

Bandana caching flowchart

As you can see from the diagram, the CachingBandanaPersistor is solely responsible for reading and updating the cache, only delegating queries to the HibernateBandanaPersistor when the required data is not already in the case.

Problems to overcome

Having a cache separate to your transactional data store (Hibernate) presents a few tricky problems:

- A cache update is visible to other clients immediately; a database update is only visible to other clients once the transaction commits.
- A cache update can never be rolled back; if the associated database update gets rolled back, the cache is now inconsistent with the data.
- Two concurrent transactions which update multiple caches could interleave their changes, so that neither operation is completed in its entirety. This is one type of 'lost update' problem.
- Read-through cache updates (where a cache is empty and to be populated with data read from the database) should not result in an inconsistent cache when updates occur concurrently. This is another type of 'lost update' problem and was a serious bug in Confluence 2.2.
None of these problems is insurmountable, but the solution is fairly complex. The Bandana caching in Confluence 2.3 will have the following features:

1. Cache updates (except read-throughs) will be enacted on the Coherence cache only after the related database transaction has been completed successfully.
2. Read-through cache updates will be enacted immediately.
3. All cache updates will use locking when they are processed to prevent lost updates.
4. All cache updates will be visible when reading from the same cache during the same transaction, prior to commit.

These features are provided by a Confluence transactional cache, which is described in detail below.

**Transactional cache**

The transactional cache makes a best attempt at synchronising the data in the cache and the database when a transaction commits. A transactional cache consists of two components:

1. **Deferred operations cache**, which keeps track of update operations to an underlying cache but doesn't actually perform them.
2. **Deferred cache transaction synchronization**, which performs the deferred updates on the cache once it gets notified of a successful transaction completion.

These two components collaborate with Spring for transaction management, and the locking and caching subsystems in Confluence.

### Character encodings in Confluence

**Where character encoding is used**

There are three places that character encoding matters to Confluence:

1. **Database encoding** - usually the most important; it is where almost all user data is stored.
2. **Filesystem encoding** - important for attachment storage (pre-2.2), reading Velocity templates and writing exported files.
3. **HTTP request and response encoding** - important for form parsing, correct rendering by the browser and browser interpretation of encoded URLs.

Problems generally arise when Confluence thinks one of the above encoding is different to what it actually is. For example, Confluence might believe the database is using ISO-8859-1 encoding, when in fact it is UTF-8 encoded.

**Java character encoding**

Java always uses the double-byte UCS-2 character encoding for all char and String data. This means that each of the encodings above defines how, at that particular point, characters are converted to and from Java's native UCS-2 format into some other format that the browser, filesystem or database might understand.

So when a request comes in to Confluence, we convert it from the request encoding to UCS-2. Then we store that data into the database, converting from UCS-2 to the database's encoding. Retrieving information from the database and sending it back to the browser is the same process in the opposite direction.

**Problems with character encodings**

If Confluence has the wrong idea about encoding for one of the above, it manifests itself in different ways:

1. Incorrect database encoding - user data is corrupted between saving and restoring from the database. This often happens after a delay, as we cache data as it is written to the database and only later retrieve the corrupted copy from the database.
2. Incorrect/non-Unicode filesystem encoding - international filenames break attachment download/upload/removal (pre-2.2); exports break with international content or attachments.
3. Incorrect HTTP encoding - incorrect encoding selected by browser, resulting in incorrect rendering of characters. Changing browser encoding causes pages to render properly. Broken URLs when linking to pages or attachments with non-ASCII characters.

**Configuration of character encodings**

The **Confluence character encoding** is a configuration setting found in Administration > General Configuration, and at runtime available in Settings.defaultEncoding. It is subsequently used in the following parts of the system:

- ConfluenceWebWorkConfiguration sets webwork.i18n.encoding to the this encoding, which WebWork uses in the response Content-Type header.
- AbstractEncodingFilter sets the HTTP request encoding to this encoding. This seems unnecessary, since the Content-Type header from the client should include the encoding used. This affects form submissions and file uploads.
- VelocityUtils reads in Velocity templates using this encoding when reading templates from disk.
- AbstractXmlExporter creates its output using this encoding.
- GeneralUtil uses this encoding when doing URLEncode and URLEncoder. Different browsers have different support for character sets in URIs, so it's uncertain how much benefit this provides.

In summary, changing the Confluence character encoding will change your HTTP request and response encoding and your Filesystem encoding as used by exports and velocity templates.

The **database encoding** is the responsibility of your JDBC drivers. The drivers are responsible for reading and writing from the database in its native encoding and translating this data to and from Java Strings (which are UCS-2). For some drivers, such as MySQL, you must set Unicode encoding explicitly in the JDBC URL. For others, the driver is smart enough to determine the database encoding automatically.
Ideally, your database itself should be in a Unicode encoding (and we recommend doing this for the simplest configuration), but that is not necessary as long as:

- the database encoding supports all the characters you want to store in Confluence
- your JDBC drivers can properly convert from the database encoding to UCS-2 and vice-versa.

The *filesystem encoding* is mostly ignored by Confluence, except for the cases where the above configuration setting above plays a part (exports, velocity). When attachments are uploaded, they are written as a stream of bytes directly to the filesystem. It is the same when they are downloaded: the bytes from the file InputStream are written directly to the HTTP response.

In some places in Confluence, we use the *default filesystem encoding* as determined by the JVM and stored in the `file.encoding` system property (it can be overridden by setting this property at startup). This encoding is used by the Java InputStreamReader and InputStreamReader classes by default. This encoding should probably never be used; for consistent results across all filesystem access we should be using the encoding set in the General Configuration.

In certain cases we explicitly hard-code the encoding used to read or write data to the filesystem. Two important examples are:

- importing Mbox mailboxes which are known to be ISO-8859-1
- Confluence Bandana config files are always stored as UTF-8.

Some application servers, Tomcat for example, have an encoding setting that modifies Confluence URLs before they reach the application. This can prevent access to international pages and attachments (really anything with international characters in the URL). See configuring your Application Server URL encoding.

**Advice**

In general, **always set all character encodings to UTF-8**. That includes database, JDBC drivers, application server, filesystem and Confluence.

In certain isolated cases (e.g. Microsoft Windows), it might not be possible to use a fully Unicode filesystem (that is, a default Windows install doesn’t support Unicode filenames properly). If so, stick with UTF-8 for the other two and be aware that your operating system might have limitations around international attachments (pre-2.2), backup and restore of international data, etc.

**RELATED TOPICS:**

- Configuring Database Character Encoding
- Troubleshooting Character Encodings

**Confluence Caching Architecture**

The cache service provides centralised management of in-memory data caching within the Confluence application. Depending on which edition of Confluence you are running, the cache service may be backed by ehcache (standard edition) or Oracle Coherence (clustered edition). Because of this, it is even more important than normal that you only code to the interfaces provided by Confluence, and do not rely on any of the concrete implementation classes.

⚠️ For more information about standard and clustered editions of Confluence, please refer to the Coherence license changes document.

**The CacheManager**

The `cacheManager` bean in the Confluence Spring application context implements two interfaces: `CacheFactory` and `CacheManager`. The only method on the manager you need to worry about (unless you are maintaining the caching system as a whole) is `CacheFactory#getNameCache(java.lang.String name)`. This method will return a `Cache`.

To prevent cache name clashes, we suggest using the same reverse domain name syntax for naming caches as you would for Java class names or plugin keys. You can provide a "friendly name" for the cache management UI by providing an I18N key: `cache.name.[cache name]`.

**Unflushable Caches**

A small number of caches are configured to not be flushed by `CacheManager.flushCaches()`. These cache names are defined by the `nonFlushableCaches` bean in `cacheServiceContext.xml`. There is currently no plan to broaden this mechanism to allow plugin-specified caches to opt in to not being flushed.

**Differences Between Editions**

The differences between the standard and clustered editions of Confluence are:

- Standard edition packages the `confluence-cache-ehcache` module
- Clustered edition packages the `confluence-cache-coherence` module

Both of these modules are contained in the `cache` subdirectory of the main Confluence source tree.

Having both or neither of `confluence-cache-ehcache` and `confluence-cache-coherence` in the Confluence classpath will cause the system not to run.
Implementation

There are a couple of different places the caching subsystem hooks into the rest of Confluence.

Bootstrapping

During bootstrapping, Confluence will try to load /bootstrapContext.xml into the Spring context. This file will be found in one of the cache implementation jars. This context file is responsible for providing an implementation of the ClusterManager, ClusterConfigurationHelper and HibernateCacheFactory.

You can tell which edition of Confluence you are running by calling ClusterManager#isClusterSupported. This will return true in clustered editions, false otherwise.

Hibernate

Hibernate is configured to use the ConfluenceCacheProvider as its cache provider. This provider delegates to the HibernateCacheFactory (as defined in the bootstrap context above) to instantiate the correct cache implementation depending on the Confluence edition being run.

The Cache Manager

During main application startup, Confluence will try to load /cacheProviderContext.xml into the Spring context. This file will also be found in one of the cache implementation jars and is responsible for instantiating the correct implementation of the CacheManager.

The Cache Management UI

The user interface (and backing implementation) for viewing, flushing and adjusting the sizes of caches are implemented as plugins within each of the cache implementation jars.

Gotchas

- ehcache will log a warning if a cache is created for which it does not have an explicit configuration in ehcache.xml. We should ensure that there are no such warnings before releasing a new version of Confluence.

Confluence Internals History

A brief history of Confluence noting when major features or internal changes were introduced. See the release notes for full details.

Confluence 2.6

Redesign of recent updates, children web UI. Introduced classic theme which maintains old look and feel.

Source structure changed to fit better with Maven 2.

Confluence 2.5.5

Server ID support.

Confluence 2.5

Pages can be restricted to multiple users and/or groups.

Confluence 2.4

Editable comments.

Bundled plugins shipped in atlassian-bundled-plugins.zip, including Plugin Repository Plugin.

First release built with Maven 2.

Confluence 2.3

Clustering possible with a clustered license.

Changed from EhCache caching layer to Tangosol Coherence. This was for both application caches and Hibernate second-level caches.

Moved Bandana (configuration framework) storage from home directory (/config/) to the BANDANA table in the database.

Confluence 2.2

Structure of attachments folder in home directory changed from /attachments/<filename>/<version> to /attachments/<id>/<version> to fix CONF-4860.

Personal spaces.
Confluence 3.0 Documentation

Simpler Atlassian-User configuration when `atlassian-user.xml` replaces `atlassianUserContext.xml`.

Confluence 2.1
Confluence starts using Atlassian-User.

Confluence 2.0
Export Word documents.

Confluence Permissions Architecture

These are guidelines related to the development of Confluence. The guidelines mainly apply to Atlassian employees, but reading them should provide insight for third-party plugin developers as well, so we decided to make them public.

Permissions checking overview

In Confluence, a permission check is a question like *does user U have permission to do action A to content C?* The way we answer that question deserves a brief overview of the logical operations:

1. First, Confluence checks that the user is allowed to access the application. This involves user and group checks for user U against the defined global permissions.
2. Second, Confluence checks space permissions. This involves user and group checks for user U against the space permissions for action A for the space containing content C.
3. Finally, Confluence checks content level restrictions like page permissions. This involves user and group checks for user U against the content level permissions for action A on content C.
4. If all three checks succeed, user U is permitted to do action A to content C by Confluence.

The logical operations involved in a "user and group check for user U" look like this, taking space permissions as an example:

1. First, Confluence retrieves all the space permissions for the space containing content C from the database.
2. Next, it checks whether user U is one of the individual users that has been granted the permissions required to do action A.
3. Next, it goes through the groups with permission required to do action A, and checks whether user U is a member of any of those groups.
4. If the membership status of user U and the group isn't cached already, Confluence determines which user repository (database, LDAP, Crowd) owns the group. Confluence checks in the user repository whether user U is a member of the group, and caches the result for subsequent checks.
5. If either check succeeds – that is, if either user U or one of the her groups has permission for the action – user U is permitted to do action A to content C by Confluence.

The API used for performing all these checks is described in more detail below.

The PermissionManager API

The core API for checking permissions in Confluence is through the `PermissionManager` (javadoc). The two most important methods on this interface are:

- `hasPermission` – does user U have permission P on object O?
- `hasCreatePermission` – does user U have permission to create object of type T inside container C?

So, for example. If you have a page, and want to determine if a user is able to edit it:

```java
boolean canEdit = permissionManager.hasPermission(user, Permission.EDIT, page);
```

Or, if you want to know if user is permitted to comment on a page:

```java
boolean canComment = permissionManager.hasCreatePermission(user, page, Comment.class);
```

- Permissions are defined as constants on the `Permission` interface (javadoc). They are VIEW, EDIT, EXPORT, REMOVE, SET_PERMISSIONS and ADMINISTER.
- If the supplied user is null, the anonymous permission is checked
- For the purpose of checking create permissions, the "containing" object is not the same as the parent. You test if a page can be created in a space, and a comment within a page, not within its parent page or comment.
- There is a special object – `PermissionManager.TARGET_APPLICATION` – that represents Confluence itself and is used for checking global permissions
- Some permission checks don't make sense, for example checking if you can REMOVE TARGET_APPLICATION, or checking if you can administer a page. Checking a nonsensical permission will result in an `IllegalArgumentException`
- Similarly, if you check permissions against a type of object that the `PermissionManager` doesn't know how to check permissions against (i.e. it doesn't have a delegate for that class, see below), it will throw an `IllegalArgumentException`.

**Permission Inheritance**
The system does not cater for any inheritance of permissions. Having Permission.ADMINISTER against an object does not imply that you also have Permission.EDIT.

However, certain permissions are considered "guard permissions". For example, permission to VIEW TARGET APPLICATION is required to do anything in Confluence (it's generally referred to as "Use Confluence" permission). Similarly, permission to VIEW a particular space is required to do anything else in that space. If you are modifying Confluence permissions through the UI, removing a guard permission from a user or group will also remove any dependent permissions that user/group might have. If you are modifying Confluence permissions programmatically, you are responsible for making sure they end up in a sensible state w.r.t guard permissions.

**PermissionManager Quirks**

- The PermissionManager always checks to ensure a user is not deactivated, and that a user has the "Use Confluence" guard permission.
- The PermissionManager does not check if the user is a member of the super-user confluence-administrators group. If you want super-users to override your permission check, you have to do it manually.

**PermissionManager Implementation**

For every type of target object (or container in the case of create permissions) there is a corresponding PermissionDelegate (javadoc) that performs the actual checks. The code should be reasonably self-explanatory.

**Shortcuts**

**Getting all viewable/editable spaces for a user**

Finding all spaces for which the user has a particular permission is a common, and reasonably expensive operation in instances with large numbers of spaces. For this reason we have a number of shortcut methods on SpaceManager that go straight to the database:

- getPermittedSpaces – get all spaces for which a user has VIEW permission
- getPermittedSpacesByType – get all spaces of a certain SpaceType for which the user has VIEW permission
- getSpacesEditableByUser – get all spaces in which the user can create or edit pages
- getEditableSpacesByType – get all spaces of a certain SpaceType in which the user can create or edit pages

**Note:** These operations are still not cheap, especially in situations where the user being checked may be a member of a large number of groups.

**Searching / Lucene**

The Lucene index contains enough information for searches to determine if particular results are visible to the user performing the search. So long as you're not going direct to the Lucene index yourself, and use one of Confluence's search APIs to find content, the content returned should not require any more tests for VIEW permission.

**Checking Permissions from Velocity**

It might be difficult (or even impossible) to construct a required PermissionManager call from velocity code, especially for calls to the hasCreatePermission() method. For this reason there is an object called permissionHelper (javadoc) in the default velocity context with a number of helper methods to perform common permission checks.

If you can not find an appropriate method on the PermissionHelper, your best course of action is to write a Velocity Context Plugin to encapsulate your permission checking code (or if you're an Atlassian developer, obviously, just add it to the helper).

**Other Permission-related APIs**

**PermissionCheckDispatcher**

The PermissionCheckDispatcher allows you to check if a particular user has access to a certain Confluence URL. It will only work if the target of the URL is a WebWork action (it works by instantiating the action referred to by that URL, filling in all the relevant form values, and calling isPermitted on the action).

The PermissionCheckDispatcher used to be the preferred way of testing whether or not to display a link in the web UI. However, its use is being phased out because it can be very slow. Do not use the PermissionCheckDispatcher for new code. Instead, use the PermissionManager directly. If you are in UI code, use the PermissionHelper (javadoc), a convenience class that is placed in the Velocity context to make permission checks more Velocity-friendly.

**SpacePermissionManager**

The SpacePermissionManager is a low-level API for directly manipulating user permissions. You should not use the SpacePermissionManager for checking permissions, because it tightly couples your permission check to the internal representation of permissions in the database. Use the PermissionManager for all permission checks.

The SpacePermissionManager should only be used:

- By a PermissionDelegate to translate between a logical permission check, and the back-end implementation of that permission
- By permissions management code (i.e. granting, revoking or displaying user permissions)
Adding New Permissionable Objects

To make it possible to use a new type of object as the subject of a permissions check, you will need to:

1. Write a `PermissionDelegate` for that object's class.
2. Instantiate the delegate in Spring (delegates are defined in `securityContext.xml`).
3. Add that object to `DefaultPermissionManager`'s `delegates` property in `securityContext.xml`.

Adding New Permissions

1. Ask if this permission is really necessary? For example, a lot of things that look like they should be permissions are really "create" permissions (like "can comment on page" is really "create (comment, page)")
2. Add a new method to the `PermissionDelegate` interface.
3. For each existing `PermissionDelegate`, implement your new method. Throw `IllegalStateException` if the permission is not relevant to that delegate's object.
4. Add a new constant to the `Permission` interface to represent your permission (see the existing examples).

To Do

- Permissions checking on labels (add, remove) are broken, and still being done via page permission checks.
- We should probably throw `UnsupportedOperationException` for bogus checks instead of `IllegalStateException`.
- Currently create permissions are tested against container, not parent. A `hasCreatePermission` method could be useful.

Confluence Services

These are guidelines related to the development of Confluence. The guidelines mainly apply to Atlassian employees, but reading them should provide insight for third-party plugin developers as well, so we decided to make them public.

Here's a quick overview of some of the services defined in Confluence (for more details of what a service is, see the High Level Architecture Overview).

**Database Service**

This service is defined in `databaseSubsystemContext.xml` and `productionDatabaseContext.xml`. It provides database connectivity and Hibernate ORM to the application. The reason for splitting the service into two files is to allow for easier testing. `productionDatabaseContext.xml` extracts the database configuration from the bootstrap configuration, and brings up Confluence with the Tangosol Coherence clustered cache. If you substitute that one file with `testDatabaseContext.xml` you will instead get a pre-configured in-memory HSQL database and in-memory caching.

Because configuring Hibernate dynamically is non-trivial, the database service is unavoidably dependent on every class we want to persist via Hibernate. You can see this in the list of `.hbm.xml` files loaded in `databaseSubsystemContext.xml`.

**Bandana Service**

Provides a generic configuration/preferences storing service using XStream to serialize POJO configuration objects to XML. Confluence's bandana service persists to the database.

**Cache Service**

Provides centralised management of in-memory cached data. The backing cache implementation is provided by ehcache in the standard edition of Confluence, and Oracle Coherence in the clustered edition. For more information about the cache service, see Confluence Caching Architecture.

For more information about standard and clustered editions of Confluence, please refer to the Coherence license changes document.

**Event Service**

Provides a simple service for producing and consuming events. Defined in `eventServiceContext.xml`. Confluence's event service is cluster-aware, distinguishing between events that are limited to a single node of the cluster, and events that must be broadcast to every node.

**Plugin Service**

Provides the Atlassian plugin framework, in `pluginServiceContext.xml`. Confluence's plugin service is customised to deal with bundled plugins (plugins that are provided with the application but that may be upgraded by the end user), and to behave mostly sanely in a cluster.

The plugin system hasn't been entirely service-ised yet, as all the different plugin module loaders result in dependencies back to whatever subsystem they're being plugged into.
**Task Queue Service**

A central manager for queues in Confluence. I'm not entirely sure this should exist as it currently adds no value whatsoever beyond being a lookup mechanism, which Spring does already.

**Not Services**

Things that should be services, but aren't.

**Quartz Scheduling**

Pretty obvious next candidate for servicization, but possibly tricky because the Spring/Quartz integration might not be very friendly.

**Backup/Restore**

Something to keep in mind if we clean up the backup/restore code

**User Management**

I wasn't going to mess with user-management while there was a different atlassian-user task in the release pipeline.

**Wiki Rendering**

This seems like a reasonably trivial candidate to convert to a service. There's only one dependency on non-service code (the image renderer depends on the attachment manager).

**Mail (sending and receiving)**

The sending and receiving of email is currently a mess of singleton configurations, clients sticking mail jobs directly on the queue, and very little going through Spring at all. This should be fixed.

**External Network Access**

It would be nice to have Confluence provide a service for accessing the outside world so we can throttle number of connections, provide central configuration of time-outs and authentication, and so on.

**Image Manipulation**

Right now we have a thumbnail manager that lives with attachments, but it would be nice to make this more generic, and at least support multiple thumbnail sizes.

**Confluence UI architecture**

**Rendering frameworks**

There are two frameworks that do the template rendering in Confluence: Webwork and Sitemesh. The confusing bit is that both of them use Velocity as their templating engine. We try to distinguish them by using *.vm for templates processed by Webwork, and *.vmd for those processed by Sitemesh.

**Rendering contexts**

There are four different Velocity contexts used in Confluence:

- templates processed by Webwork use the context defined in ConfluenceVelocityContext
- templates processed by Sitemesh as a result of the \#applyDecorator() directive use the context defined in ApplyDecoratorDirective
- templates processed by Sitemesh as a result of the URL mapping in decorators.xml use the context defined in ProfilingPageFilter
- templates processed by the notification queue use the context defined in VelocityRenderedQueueItem.

The two Sitemesh contexts are pretty much the same, but the Webwork velocity context contains a lot more stuff than either of the Sitemesh ones.

**Logical structure**

The following diagram shows the logical structure of the Confluence UI.
Confluence UI Architecture - Logical Structure

Rendering pipeline

The following diagram shows the flow of control through the Confluence UI.
In more detail, the flow of control goes:

- Webwork gets request, maps request URL to action using xwork.xml
- Webwork maps response of action to a Velocity template using xwork.xml
- Webwork launches Velocity handler on template (*.vm) with context defined in ConfluenceVelocityContext
- Velocity process content in *.vm file
  - Within an `@applyDecorator()` directive:
    - Velocity calls the ApplyDecoratorDirective class with the parameters and body content of the directive
    - Any `@decoratorParam()` directives are processed by the ParamDirective class, which pushes bits of the current Velocity context into the ApplyDecoratorDirective parameters
    - ApplyDecoratorDirective matches the name parameter of the directive with a *.vmd file from decorators.xml
    - ApplyDecoratorDirective launches Sitemesh on a decorator template (*.vmd) with context defined in ApplyDecoratorDirective
    - Sitemesh returns decorated content
  - Velocity template finished processing rest of *.vm file, returns to Webwork
- Web.xml servlet filter 'sitemesh' maps to ProfilingPageFilter, a Sitemesh page filter
- Sitemesh uses the request URL mapping in decorators.xml to launch a decorator template (*.vmd) with context defined in ProfilingPageFilter
- Sitemesh returns decorated content as response.

You can find out which beans are in which context by looking in the classes above. A full list would be too long to include here. Note that even though the ApplyDecoratorDirective launches a Sitemesh decorator template, the Sitemesh template doesn't get automatic access to...
the Velocity context. The only bits that are passed through are done with the \#decoratorParam() directive.

Wow, pretty complicated. But it lets us do cool stuff like implement custom themes, apply layouts and more.

Sample page

Below is a sample decorated page with the templates responsible for the rendering indicated.

Decorated page

Date formatting with time zones

Introduction

Confluence 2.3 supports a time zone preference for a user. This means all dates in the system must be formatted using the same process to appear in the user's time zone correctly. This document describes how dates are formatted in Confluence. It may be useful to plugin developers who need to format dates in a special way inside Confluence.

DateFormatter

The new class introduced in Confluence 2.3, DateFormatter, allows formatting in the user's timezone. See the full javadoc for details, but methods include:

- String format(Date date) – Formats the date and returns it as a string, using the date formatting pattern.
- String formatDateTime(Date date) – Formats the date and returns it as a string, using the date-time formatting pattern.
- String formatServerDate(Date date) – Same as format(Date), but doesn't perform time zone conversion.

Most methods format the time in the user's time zone. The 'server' methods format the time in the server's time zone.

Accessing the DateFormatter in Velocity

In Velocity, using the DateFormatter is easy because it is in the Velocity context. In a normal Velocity template (*.vm), such as an action result, you might use it like this:

```
$dateFormatter.format($action.myBirthdayDate)
```

If you want to use the DateFormatter in a Velocity decorator (*.vmd), such as a custom layout or theme, you need to access it via its getter on the action:
Accessing the DateFormatter in code

The DateFormatter is constructed by the ConfluenceUserPreferences object, which can be obtained from the UserAccessor. The code below gives a demonstration:

```java
ConfluenceUserPreferences preferences = userAccessor.getConfluenceUserPreferences(user);
DateFormatter dateFormatter = preferences.getDateFormatter(formatSettingsManager);
System.out.println(dateFormatter.formatDateTime(date));
```

The `userAccessor` and `formatSettingsManager` are Spring beans which can be injected into your object. You can usually get the user from the context of your macro or plugin, or using `AuthenticatedUserThreadLocal.getUser()`.

# HTML to Markup Conversion for the Rich Text Editor

- **Introduction**
- **Classes and Responsibilities**
  - `DefaultConfluenceWysiwygConverter`
  - `DefaultWysiwygConverter`
  - `WysiwygNodeConverter`
  - `Styles`
  - `ListContext`
  - `WysiwygLinkHelper`
- **Overview of the HTML to Markup Conversion Process**
  - Preprocessing the HTML
  - Converting the Document Fragment to Markup
  - Post-processing the markup
  - Worthwhile Style Improvements
- **Rendering in 'For Wysiwyg' Mode**
- **How To Fix Bugs**
  - Writing Tests
  - Finding Problems

## Introduction

This component enables the rich Text Editor by converting HTML (created by the renderer, then edited by the user) into Confluence Wiki Markup.

It works like this:

1. Submit HTML to `WysiwygConverter.convertXHtmlToWikiMarkup`
2. ...

This document explains step 2 in some more detail. Most problems with this stage stem from difficulty in determining the correct amount of whitespace to put between two pieces of markup.

## Classes and Responsibilities

This section briefly describes the main classes involved and their responsibilities.

### DefaultConfluenceWysiwygConverter

Converts Wiki Markup to HTML to be given to the rich text editor, and converts edited HTML back to markup. Creates RenderContexts from pages and delegates the conversion operations to a WysiwygConverter instance.

### DefaultWysiwygConverter

Converts Wiki Markup to XHTML to be given to the rich text editor, and converts edited XHTML back to markup. This class contains the guts of the HTML -> Markup conversion, and delegates the Markup -> HTML conversion to a WikiStyleRenderer, with the `setRenderingForWysiwyg` flag set to true in the RenderContext.

### WysiwygNodeConverter

Interface for any class which can convert an HTML DOM tree into Markup. Can be implemented to convert particular macros back into markup. The macro class must implement WysiwygNodeConverter and give the macro's outer DIV a 'wysiwyg' attribute with the value 'macro:<macroname>'.
Aggregates text styles as we traverse the HTML DOM tree. Immutable. Responsible for interpreting Node attributes as styles and decorating markup text with style and colour macros/markup.

**ListContext**

Keeps track of nested lists – the depth and the type.

**WysiwygLinkHelper**

Just a place to put some static methods for creating HTML attributes describing links, and for converting link HTML nodes into markup.

**Overview of the HTML to Markup Conversion Process**

**Preprocessing the HTML**

1. First the incoming HTML is stripped of newlines and ‘thinspaces’, which were inserted during the rendering process so that there were places to put the cursor to insert text.
2. XML processing instructions (which can be present when HTML is pasted from MS Word) are stripped.
3. NekoHTML is used to parse the HTML into an XML document fragment.

**Converting the Document Fragment to Markup**

This uses the `convertNode` method, which has the honour of being the longest method in Atlassian (although not the most complex by cyclomatic complexity measures).

The signature of this method is:

```java
String convertNode(
    Node node,
    Node previousSibling,
    Styles styles,
    ListContext listContext,
    boolean inTable,
    boolean inListItem,
    boolean ignoreText,
    boolean escapeWikiMarkup)
```

That is, the method returns the markup needed to represent the HTML contained in the DOM tree, based on the current context (what styles have been applied by parent nodes, are we already in a table or a list and so on).

The body of this method is a large case statement based on the type of the current node and the current state. The typical case gets the markup produced by its children, using the `convertChildren` method, decorates it in some way and returns the resulting string.

The `convertChildren` method simply iterates over a node’s children calling `convertNode` and concatenating the markup returned.

In order to determine how much white space separates the markup produced by two sibling nodes we often need to know the type of each node. That is why `convertNode` takes a `previousSibling` argument. The `getSep` method takes the two nodes to be separated and some state information. It uses a lookup table to decide what type of whitespace (or other text) to use.

**Post-processing the markup**

1. Clean up whitespace and multiple newlines – the conversion process may insert too many newlines or multiple “TEXTSEP” strings to separate text – these are collapsed into single newlines and single spaces.
2. Replace `{}` style markup with simply * where possible.

**Worthwhile Style Improvements**

1. Split up `convertNode` so that it is responsible for deciding what treatment the current node needs, and then calling `convertTextNode`, `convertDivNode` etc.
2. Put the state passed to `convertNode` into an immutable object to reduce the parameter clutter. Don’t use a Map.
3. Refactor `WysiwygLinkHelper` – it’s very confusing.

**Rendering in 'For Wysiwyg' Mode**

The HTML produced by the renderer to be displayed by the Rich Text editor is not identical to that generated for display. It contains extra attributes which are cues to the conversion process. The following list isn’t exhaustive, but gives the flavour of the types of considerations involved.

1. Some errors should be rendered differently so that the original markup isn’t lost – e.g. an embedded image which can’t be found should be displayed as a placeholder, not just an error message.
2. When links are rendered extra attributes are added to the tag so that the appropriate alias, destination and tooltip can be determined. See `WysiwygLinkHelper`’s javadoc for details.
3. Some errors put the erroneous markup in a span with the “wikisrc” class, which causes its contents to be directly used as markup.
4. This speaks for itself.
5. Thin spaces are added at strategic points so that there is somewhere to place the cursor when inserting text, e.g. at the end of the page, in a new paragraph.

6. Curly brackets are treated differently: a '{' typed in the RTE is interpreted as the start of a macro tag, not as an escaped '{' – you must explicitly escape '{' and '}' in the RTE.

7. Macros.

   From a wysiwyg point of view there are four cases:
   a. Macros with unrendered bodies (or no bodies). These appear as \{macro\} ... unrendered body ... \{macro\}, so the user can edit the body text in wysiwyg mode.
   b. Macros with rendered bodies, but which the editor doesn’t ‘understand’ – that is, the editor can’t manipulate the HTML produced by the macro. These are rendered as \{macro\} ... rendered body ... \{macro\}. A macro indicates that the editor doesn’t understand it by returning true from suppressMacroRenderingDuringWysiwyg(). Most macros should do this, unless the Wysiwyg converter understands how to create a new instance of the macro. The user can edit the HTML in the body of these macros, which will be converted back to markup.
   c. Macros we fully understand. These are simply rendered as normal (but surrounded by a div or span describing them). These return false from suppressMacroRenderingDuringWysiwyg().
   d. Macros which are responsible for their own rendering. These return true from suppressSurroundingTagDuringWysiwygRendering().

8. The `bq.` markup adds an attribute to the tag to distinguish it from a blockquote tag produced by the `{quote}` macro.

9. The header DIV of panel macros is given a wysiwyg="ignore" attribute, because it is generated from the macro parameters. This means that if you edit the title of a panel macro in the RTE the change is ignored.

10. Look at the InlineHtmlMacro for an example of a macro which implements WysiwygNodeConverter.

### How To Fix Bugs

**Writing Tests**

The first thing to do is to write a failing test. At the moment all the tests are in `com.atlassian.renderer.wysiwyg.TestSimpleMarkup`. Keeping them all together is reasonable, as they run quickly and you will want to make sure that your fixes don’t break any of the other tests.

There are two types of test – markup tests and XHTML tests.

Use a markup test when you have a piece of markup which doesn’t ‘round trip’ correctly. For instance, perhaps the markup:

```
* foo
* bar
```

becomes

```
* foo
* bar
```

when you go from wiki markup mode to rich text mode and back again.

The body of the test you write would be:

```java
testMarkup("* foo\n\n* bar");
```

which will check that the markup is the same after a round trip. Note that it is OK for markup to change in some circumstances – two different markup strings may be equivalent, and the round trip will convert the starting markup to ‘canonical markup’ which renders identically to the
initial markup. There are also pathological cases where a round trip may switch markup between two equivalent strings – these should be fixed, even though they don’t break the rendering as they show up as changes in the version history.

If a bug is caused by the conversion of user-edited (or pasted) HTML into markup.  
In this case you write a test like this:

\[
\text{testXHTML("...offending HTML...", "...desired markup...")}
\]

This test first checks that the desired markup round-trips correctly, then that the HTML converts to that markup.

**Finding Problems**

Once you have written your test you need to find out what the converter is doing.

Running the test in debug mode and putting breakpoints in `testMarkup/testXHTML` is the best way of doing this. As you track down the nodes causing problems you can put breakpoints in the part of `convertNode` which handles the offending type of node.

You can also set ‘debug’ to true in `DefaultWysiwygConverter.java:44` – this will dump the XHTML produced by Neko, turn off the post-processing mentioned above, and print out details of the separator calculations in the generated markup string.

So you might see:

\[
\begin{array}{l}
\text{[li-li}
\text{false,false]}
\end{array}
\]

which means that two list items, not in a table and not in a (nested) list get separated by a newline. You can tweak the table of separators as needed.

**HTTP authentication with Seraph**

**Introduction**

This document describes how the default security system in Confluence works, using the Seraph library for HTTP authentication.

Extending the security system by subclassing Seraph’s authenticator and configuring the `seraph-config.xml` file is outside the scope of this document. See [Single Sign-on Integration with JIRA and Confluence](#).

**Flowchart diagrams**

The easiest way to understand Confluence’s authentication process is with the following diagrams.

Because the `Authenticator.login(request, response, username, password, rememberMe)` method occurs three times, and is slightly complex, it has been broken into its own sub-flowchart.
Supported authentication methods

The default Seraph authenticator supports four methods of authentication, as can be seen in the flowchart:

- request parameters: os_username and os_password
- session attribute storing the logged-in user
- cookie storing username and password ('remember me' login)
- HTTP basic authentication via standard headers.

Each method is tried in the order above. A successful login at an earlier method continues without checking the later methods. Failure at one method means continuing with the later methods until all are exhausted. At this point, the user is considered an anonymous user, and treated according to the permissions of an anonymous user in Confluence.

Looking through the source code will show that Seraph supports role-based authentication, but this is only used in Confluence for the /admin/ URL restriction.

Related pages

Understanding User Management in Confluence
Confluence Internals
Single Sign-on Integration with JIRA and Confluence.

I18N Architecture

This document sheds some light on how Confluence looks up a message text from one of the resource bundles.

Loading of Resources

Currently the only implementation of the I18NBean interface is the DefaultI18NBean. When it is instantiated, it attempts to load resources from the following locations:

1. Load /com/atlassian/confluence/core/ConfluenceActionSupport.properties and /external-links.properties and create a CombinedResourceBundle containing both of them.
2. Load all language pack resources which match the current user's locale, which would be:
   - /com/atlassian/confluence/core/ConfluenceActionSupport_<country_lang_variant>.properties
   - /com/atlassian/confluence/core/ConfluenceActionSupport_<country_lang>.properties
   - /com/atlassian/confluence/core/ConfluenceActionSupport_<country>.properties

Warning
The files are only loaded if a language pack for the specific locale is installed.

3. Load all resources of type 'i18n' which match the current user's locale:
   - <resource location>_<country_lang_variant>.properties
   - <resource location>_<country_lang>.properties
   - <resource location>_<country>.properties
   - <resource location>.properties

Resource Bundle Structure

DefaultI18NBean internally creates a list of CombinedResourceBundles per locale, combining resource bundles from language packs and i18n resources of the same locale. When you call one of the DefaultI18NBean.getText() methods it will go through the bundles in the following order:

1. country_lang_variant
2. country_lang
3. country
4. default
On a lookup of a combined resource bundle, the last occurrence of a given key takes precedence during the lookup, which results in the following lookup order:

1. i18n resource
2. language pack

The order within i18n resources and language packs with the same locale is not defined, as they are loaded from the plugins which are loaded in an arbitrary order. This is not an issue in most cases, as you usually have no overlapping keys between your resources anyway.

**Example**

Given the following situation:

- The current user's locale is 'de_DE_foo'
- There are language packs installed for the locales 'de_DE_foo', 'de_DE' and 'de'
- There is one resource of type 'i18n' available from one of the plugins. The location for that resource is 'com.example.resources'

The resource bundle structure would look like this:

![Resource Bundle Structure Diagram]

Lookups will always happen from top to bottom until a message for a given key is found.

**RELATED TOPICS**

Confluence Internals

**Page Tree API Documentation**

This documentation is aimed at developers needing to include page-tree (page reordering) functionality in their Confluence or Plugin code.

Let's start with an example - editing a page deep inside the Confluence Doc space.

This tree is generated by the following markup in listpages-dirview.vm:

```html
#requireResource("confluence.web.resources:jquery")
#requireResource("confluence.web.resources:page-ordering-tree")
<div id="tree-div"></div>
```

and the following JavaScript:
Once you understand the above code you'll have a good overview of how the tree works.

Stepping through the code

To start, "expandedNodes" is simply a JS array of objects with "pageId" variables. The pagelDs are populated using Velocity but any method is okay.

Next, \$jQuery(function (\$) { is just a way of enabling \$ to be used to gain access to a jQuery object. The page tree code has been written as an extension of the jQuery object, so we call \$("#tree-div") to get a jQuery object wrapping the div with id "tree-div" that we added to our HTML markup.

Creating the tree

When the tree() function is called, an object with options is passed. We'll work through each of the options in turn:

url

This is the location that the tree will load its nodes from as the user navigates it. The alternative is to directly include the tree data in the HTML in nested <ul> or <ol> format.

initurl

(optional) This is the location that the tree will load its "trunk" (initial nodes) from. If not specified, the "url" will be used and the server would
be expected to return something useful. If specified, it can (as in this case) pass extra information to the same server address.

parameters

(Optional but important) This array specifies the key/value pairs that will be sent to the URL when making node requests. The nodes returned from the server will be expected to include key/value pairs for each of the parameters in the array, which are stored in the tree internals and sent with any future requests from that node.

append, insertabove, insertbelow

(Optional) These options specify callback functions that should be executed when their respective event occurs:

- append - means that a tree node (i.e. a page) has been moved inside another node
- insertabove - means that a tree node has been moved above another node
- insertbelow - means that a tree node has been moved below another node

For each of these events the most important data is source and target. Source is the node that is being moved and target is the "other" node that the source is interacting with.

While these three events are the most common, you can also hook callbacks to:

- grab - when the user clicks and holds on a node
- drag - when the user moves the mouse while a node is grabbed
- drop - when the user releases the mouse button
- nodeover - when a node is dragged over another node
- nodeout - when a node is dragged out of a node it was previously over
- onready - covered next

onready

(Optional) Called when the tree has finished loading, from either its first initUrl call or from hard-coded list data. In this case, if "expandedNodes" exist the tree should be expanded to show them. The way that this is done is worth explaining in more detail.

Finding and Expanding Nodes

Once the first level of tree data has been loaded into the browser, the next step is often to drill into the tree to expose a particular element. This is done by calling:

tree.expandPath(expandedNodes, callback)

Internally, this function works recursively through the array of expandedNodes, locating the node in the loaded tree and, if present, opening it. In the screenshot above, this is equivalent to passing an array of nodes:

"Confluence Documentation Home", "Confluence Development Hub", "Confluence Architecture", "Confluence Internals". Note that the nodes are referenced by pageId and must be in the correct order - each node to expand must already be loaded. Once each node is expanded the callback function (if present) is executed. In this example, the callback highlights a node inside the expanded nodes - note that the "Bandana caching" node is only loaded from the server when the "Confluence Internals" node is expanded, so the highlighting must occur after this.

Individual nodes are located with this syntax:

tree.findNodeBy(attribute-name, attribute-value)

Usually the attribute-name will be one of the parameters in the options originally used to create the tree; in this case it is "pagId".

The object returned by findNodeBy has a number of functions that can be called on it:

- open(callback) - expand this node. If the node has not been opened yet and the tree has a url, child-node JSONs will be requested from the server and appended to the node.
- close() - closes an opened node
- getAttribute(attrName) - returns the attribute value for the given name (eg "pagId")
- setAttribute(attrName, attrValue) - sets an attribute
- highlight()- adds "highlighted" class to the node
- makeDraggable()- allows the node to be moved in the tree
- makeUndraggable()- stops the node from being moved (e.g. when moving a page while editing, other nodes in the tree cannot be moved)
- setText(text) - updates the node text
- append(node) - appends a node to this node
- below(node) - places the passed node after this node
- above(node) - places the passed node before this node
- remove() - removes this node from the tree
- reload() - if this node has children, reload them from the server
Other tree functions

In addition to the functions covered in the example above, the tree object exposes the following variables and functions:

- options - the options passed in the original tree() function call
- reload() - clears and rebuilds the tree
- append(node) - appends a node to the tree root

Password Hash Algorithm

Confluence uses an algorithm to hash local users' passwords. The result for the password 'admin' is:

```
x61Ey612Kl2gpFL56PT9weDmpSo4AVj8+qx2AuTHdRyY036xxzTTrw10Wq3+4qQyB+XURPWx1ONxp3Y3pB37A==
```

The encryption algorithm is based on BouncyCastle's SHA1-512 implementation. You can see one version of the source code for it [here](#). The entire Confluence source code is available [here](#).

If you'd like to try to import users from a different user management system into a local instance of Confluence, you're likely to be better off using a different solution than re-hashing existing passwords. Some options would be:

1. Use Crowd, which is extendable and offers connectors to user repositories.
2. Import users using their plain text passwords, leveraging the Remote API Specification. One good client is the Confluence Command Line Interface.

Persistence in Confluence

There are three main persistence APIs which are used in Confluence:

1. Hibernate - database persistence, difficult to extend.
2. Bandana - XML persistence, easy to use in plugins. Stored in database in Confluence 2.3+, or in Confluence home directory in 2.2.x and earlier.
3. Content properties - database persistence for properties associated with a piece of Confluence content.

Because Bandana is the primary persistence API used by plugin developers, it will be covered in more detail below.

Hibernate

Confluence uses the open source persistence framework Hibernate. Confluence 2.2.x uses Hibernate version 2.1.8.

Each object to be persisted has a *.hbm.xml file which sits in the same directory as the associated class in the Confluence web application. For example, Label.class has an associated Label.hbm.xml which describes how label objects will be persisted. The particular details vary from class to class, but typically include:

- the database table used to hold the data (Confluence bootstrap creates these tables if they do not exist)
- the column names and mappings to class attributes
- any special queries used for functionality in Confluence (for example, to retrieve a list of personal labels)

All this data is expressed in the standard Hibernate mapping format. In some cases, there is a single mapping file for all subclasses of a particular class. For example, ContentEntityObject.hbm.xml includes mappings for pages, news, mail and space descriptions.

The Hibernate mapping files are listed in mappingResources bean in applicationContext.xml.

Although it might be possible to extend Confluence's database through Hibernate, this is not recommended. There are a few downsfalls with extending our Hibernate configuration:

1. You need to maintain your forked copy of the hibernate mappings file against each new version of Confluence
2. Your new hibernate objects will not be protected from (or necessarily upgraded to) any changes we make in the schema in future versions
3. Unless you really understand our code, something weird will happen.

Avoid using Confluence's database to store custom data – use content properties or Bandana instead.

Bandana

Bandana is an Atlassian framework for persistence which uses XStream to convert arbitrary Java objects into XML for storage. The concepts used in Bandana are very simple:

- Bandana stores data in contexts. In Confluence, there is one global context, and one context per space. The relevant class is ConfluenceBandanaContext.
- Each context stores key-value pairs. The key is a String and the value can be any Object (it should typically implement Serializable).
Based on this design, the BandanaManager has methods for storing and retrieving values from a context by key:

- `void setValue(BandanaContext context, String key, Object value)` - store a value against a key in the Bandana context.
- `Object getValue(BandanaContext context, String key)` - get a key's value from the Bandana context. Returns null if no matching context and key exists.
- `Object getValue(BandanaContext context, String key, boolean lookUp)` - same as above, except if `lookUp` is true and the context is a space context, this method will also check the global context if no matching key is found in the space context.

For plugins, it is recommended to use a key for your Bandana values that includes the full package name of your plugin. For example, a theme plugin might use a key like `org.acme.confluence.mytheme.importantPreference`.

Prior to Confluence 2.3, this XML was written to the filesystem in the Confluence home directory. The file `config/confluence-global.bandana.xml` stores the global context, and there is a file `config/spaceKey/confluence-space.bandana.xml` with the configuration for each space. In Confluence 2.3 and above, Bandana data is written to the `BANDANA` table in the database, with three columns for context, key and an XML-serialized value.

To get access to the BandanaManager from your plugin code, normally you only need to include a private BandanaManager field with an associated setter method. Spring will automatically call the setter method before the first time your plugin is called.

```java
public class MyMacro extends BaseMacro {
    private BandanaManager bandanaManager;

    // setter called by Spring
    public void setBandanaManager(BandanaManager bandanaManager) {
        this.bandanaManager = bandanaManager;
    }

    // main method of macro
    public String execute(...) {
        // do stuff with bandanaManager
        return "...";
    }
}
```

Content properties

Another form of persistence, content properties are key-value pairs associated with a ContentEntityObject and stored in the database.

### Spring IoC in Confluence

**Introduction**

The Spring Framework provides an inversion of control (IoC) container that Confluence uses for managing objects at runtime. This document provides an overview of how this relates to Confluence, specifically focused at the needs of plugin developers and those extending Confluence.

**If you're looking for the quick overview** on how to access Confluence managers from your plugin, check out Accessing Confluence Components From Plugin Modules.

The purpose of an IoC container is to manage dependencies between objects. When you go to use an object in Confluence it will have all its dependencies ready and available to use. For example, calling a method on a PageManager will typically require a PageDao to work correctly. Spring ensures that these dependencies are available when they are needed, with a little bit of guidance from us.

**Spring contexts**

Confluence uses a number of Spring contexts to separate our objects into discrete subsystems. The contexts are declared as servlet context parameters in `confluence/WEB-INF/web.xml`. The snippet below shows the Spring contexts listed in `web.xml` for Confluence 2.3:
What this means is there are 13 context XML files in the Confluence classpath which specify the objects in Confluence which are managed by Spring. When I say 'in the Confluence classpath', in practice I mean they live in `confluence/WEB-INF/classes/`. The biggest and most important is `applicationContext.xml`, which we'll have a look at now.

Bean declarations

Around line 100 in the Confluence 2.3 `applicationContext.xml`, you'll find the `schemaHelper` bean as a good example:

```xml
<bean id="schemaHelper" class="bucket.core.persistence.hibernate.schema.SchemaHelper">
  <property name="mappingResources">
    <ref local="mappingResources"/>
  </property>
  <property name="hibernateConfig">
    <ref bean="hibernateConfig"/>
  </property>
</bean>
```

The bean has an ID for Spring to reference it (`schemaHelper`), a class name which will be used to automatically create the bean (`bucket.core.persistence.hibernate.schema.SchemaHelper`), and a number of properties. In this case, the properties are references to other beans in the current context, `mappingResources` and `hibernateConfig`.

Because we use the setter injection method in Confluence, this declaration means two things about the SchemaHelper Java class:

- it must have a public no-args constructor
- it must have two public methods: `setMappingResources()` and `setHibernateConfig()`. Both these must take one argument which is an interface implemented by the appropriate bean.

Other than these two requirements, the SchemaHelper class can be any normal Java class. It can have other constructors, other public methods, and can implement or extend any interface or class that you like.

The purpose of registering a bean in Spring is two-fold:

1. When you access the SchemaHelper bean through Spring, it will have its mappingResources and hibernateConfig dependencies injected before you use it.
2. You use the bean as a dependency elsewhere, to automatically get it injected into your own class (more on this below).

Autowiring

In the bean declaration for `schemaHelper` bean above, each property has the same name as the Spring bean which is used to satisfy it. For example, the `mappingResources` property uses the `mappingResources` bean, which is set by the `setMappingResources()` method on the `schemaHelper`. Spring provides a shortcut for leaving these declarations out, called autowiring.

For example, the declaration for `themeManager` bean is marked as autowire 'byName' (near line 1000):

```xml
<bean id="themeManager" class="com.atlassian.confluence.themes.DefaultThemeManager" autowire="byName" />
```

Looking at the `DefaultThemeManager` class, we see it has four setter methods:

1. public void setBandanaManager(BandanaManager)
2. public void setEventManager(EventManager)
3. `public void setGlobalTheme(String)`
4. `public void setPluginManager(PluginManager)`

Spring looks at the names of the four methods, tries to find beans with IDs of 'bandanaManager', 'eventManager', 'globalTheme', and 'pluginManager'. If they exist, it calls the setter method with the relevant bean as an argument.

In this case, methods 1, 2 and 4 will be called by Spring to inject dependencies. Method 3 (setGlobalTheme) is just a setter used for something else, not called by Spring. This is the drawback of autowiring: it is slow and can waste time trying to find dependencies uselessly.

Using autowiring reduces the need for writing a lot of XML, and also provides a method of dependency injection for objects which aren't registered in the Spring context XML files like plugin modules.

Plugin dependency injection

Almost all Confluence plugin types are autowired. This means, if your macro plugin needs to access a Confluence page, it can simply do so like this:

```java
public class MyMacro extends BaseMacro {
    private PageManager pageManager;

    public String execute(Map parameters, String body, RenderContext renderContext) {
        // ...
        Page page = pageManager.getPage(spaceKey, pageTitle);
        // ...
    }

    // ... implement other methods ...

    /**
     * Called by Spring to inject pageManager
     */
    public void setPageManager(PageManager pageManager) {
        this.pageManager = pageManager;
    }
}
```

Autowired components must use the interfaces used by the manager to work with different versions of Confluence. The implementing class used for various managers may change over time, but the bean ID and interface will be preserved.

Internally, the way the components are autowired is via Confluence's `ContainerManager`. You can also do this with your own objects if required:

```java
ContainerManager.autowireComponent(object);
```

Accessing Spring beans directly

If you need access to Confluence managers or other Spring beans without autowiring your class, you can use the `ContainerManager` directly. For example, to get the `pageManager` bean:

```java
PageManager pageManager = ContainerManager.getComponent("pageManager");
```

You should always use autowiring in preference to this method because it makes your code easier to change and easier to test. Inside Confluence this method is sometimes required to break circular dependencies.

Transaction proxy beans

Confluence uses Spring's transaction handling by wrapping some objects in transaction proxy beans.

Technical Overview of Clustering in Confluence

- **Overview of clustering documentation**
  Refer to the overview of Confluence clustering in the Administrators' Guide.
any copy and see the same information. While we have tried to make clustering Confluence as easy and administrator-friendly as possible, it is a major architectural change and requires extra planning for deployment and upgrades.

This document will give a technical overview of clustering in Confluence 2.3, primarily for those users and developers who will be installing and configuring Confluence in a cluster. A separate overview is available for Confluence plugin developers.

Cluster topology

A simple description of the cluster topology for Confluence would be multiple applications, shared data source. A cluster of Confluence consists of:

- multiple homogeneous installations of Confluence (called nodes below)
- a Confluence home directory for each installation.
- a distributed Oracle Coherence cache (formerly known as Tangosol Coherence), which all nodes use via a multicast group - see networking summary below
- a single database, which all nodes connect to

The user is responsible for configuring an appropriate HTTP load balancer in front of the clustered installations. Typically this means using mod_jk or another application server load-balancing technology. The load balancer must be configured to support session affinity.

Communication between clustered nodes is minimised by using a distributed cache which propagates updates to all other nodes automatically. Where necessary, Coherence provides a locking mechanism for synchronising jobs and a RMI interface for more complex communication.

LAN Clustering Only

Atlassian only supports clustering over a local area network. While it is theoretically possible to configure Confluence to cluster across a WAN, the latency involved is likely to kill performance of the cluster. We can't stop you trying, of course, but you're going to have to work out how to configure Coherence yourself, and we're not going to support the resulting mess.

Homogeneous Confluence installations

All the Confluence installations must be running exactly the same application, down to the lowest level. Items that must be the same include:

- Confluence version
- Application server version
- JDK version
- Libraries and plugins in the Confluence classpath, WEB-INF/lib
- Libraries in the application server classpath

The installation section has more information how to ensure homogeneous node installations.

Creating a Confluence cluster

When installing Confluence in a clustered setup, you will be responsible for configuring your web server and load balancer to distribute traffic between each node. No additional software is required as Coherence is bundled with Confluence.

Here is an overview of the process:

1. Obtain a clustered licence key from Atlassian for each node
2. Upgrade a single node to the clustered licence
3. Start the cluster from that node's administration menu, specifying a name and optionally a preferred network interface
4. Restart the single node and test it
5. Copy the Confluence application and Confluence home directory to the second node
6. Bring up the second node and it will automatically join the cluster.

Copying the Confluence application and home directory helps ensure that the installations are homogeneous.

An alternative to this method is to copy the Confluence web application, but not the Confluence home directory. In this case, the installation wizard will require your cluster name to connect to the other nodes, and it will automatically configure itself. You will need to rebuild the index manually after this installation, however.

There is now full documentation for a Confluence Cluster Installation.

Upgrade process

Another consequence of the homogeneous requirement is that upgrades must be done by following a strict process.

1. All cluster nodes are brought down
2. Upgrade a single node to the latest Confluence version  
3. Start the single node so it can upgrade the database  
4. Upgrade subsequent nodes and start them one-by-one.  

This is the only safe method of upgrading a Confluence cluster.

Single database

The Confluence database in a cluster is shared by all nodes. This means that the database must be able to scale to service all the Confluence nodes, which will probably mean implementing some kind of database cluster and JDBC-level load balancing. We can not offer support with scaling or tuning your database, you will need to talk to your DBA or database vendor.

For obvious reasons, you must have an external database to run Massive - you can not cluster Confluence when using the embedded HSQL database.

The most important requirement for the cluster database is that it have sufficient connections available to support the expected number of application nodes. For example, if each Confluence instance has a connection pool of 20 connections and you expect to run a cluster with four nodes, your database server must allow at least 80 connections to the Confluence database. In practice, you may require more than the minimum for debugging or administrative purposes.

In a cluster, attachments must be stored in the database. Configuring a cluster in an existing installation will automatically migrate your attachments to the database. Non-clustered installations still have the option of using the Confluence home directory for storing attachments.

While attachments are stored in the database, they are temporarily written to the cluster node's local filesystem, designated <confluence-home>/temp folder, when being streamed to users (so Confluence doesn't have to hold open database connections unnecessarily). For this reason, Confluence will still need enough temporary disk space to hold any attachments currently in transit.

Distributed cache

In a normal configuration, Confluence uses many caches to reduce the number of database queries required for common operations. Viewing a page might require dozens of permissions checks, and it would be very slow if Confluence queried the database for this information with every page view. However, caches must be carefully maintained so they are consistent with the application data. If the page permissions change, the old invalid data needs to be removed from the cache so it can be replaced with a fresh correct copy.

To preserve consistent caches across a cluster, Confluence uses a distributed cache called Oracle Coherence, which manages replicating cache updates transparently across all nodes. The network requirements of the distributed cache are quite simple, but must be preserved if the cluster is to work properly.

To discover other nodes in the cluster, Confluence broadcasts a join request on a multicast network address. Confluence must be able to open a UDP port on this multicast address, or it will not be able to find the other cluster nodes.

Once the nodes are discovered, each responds with a unicast (normal) IP address and port where it can be contacted for cache updates. Confluence must be able to open a UDP port for regular communication with the other nodes.

Because the Coherence network requirements are different to those required by the Confluence database connection, the situation can arise where Confluence can use the database but not talk to the other nodes in the cluster via Coherence. When Confluence detects this, it will shut itself down in a cluster panic.

For more details on the network configuration of the distributed cache, see the networking summary

Home directory

Confluence's home directory has a much-reduced role in a cluster. Because the application data must be shared between all nodes for consistency, the only information stored in the Confluence home directory is either node-specific, or needed to start Confluence. This includes information related to:

- database connection
- license
- cluster connection

The only application data stored in the Confluence home directory is the Lucene search index. Confluence synchronises this data itself by keeping track of indexing tasks in the database.

This is also why we recommend copying the Confluence home directory from the first node when setting up subsequent nodes. If you did not copy the Confluence home directory, you would need to rebuild the search index from scratch on the subsequent nodes after installation.

Event handling

Broadcasting events to all nodes in a cluster is supported in Confluence, but not recommended. The cluster topology uses a shared data store so that application state does not need to be synchronised by events.

The event broadcasting is done only for certain events, like installing a plugin. When a plugin is installed in one node, Confluence puts the plugin data in the database, and notifies the other nodes that they need to load the plugin into memory.

Indexing

Confluence maintains a copy of its Lucene search index on each node of the cluster. This index is used for many things beside full-text searches, including RSS feeds and lists of recently updated content. Indexing in a cluster works like this:
1. Node 1 gets a request to save some page update
2. After saving the page in the database, Node 1 adds a "page-updated" index entry to the queue, which is in the database
3. Periodically, each node picks up the "latest entries" from the queue, where what is latest is determined from a timestamp on a file in the Confluence home directory which indicates when the queue was last inspected. This process is called "flushing the index queue".
4. Each node independently updates its local Lucene index. The "page-updated" index entry is internally changed into a delete-document task and an add-document task to apply the changes to Lucene.
5. Each node updates the timestamp on its index-queue-timestamp file to reflect the most recent processing or "flushing" of the index queue.

Because of step #3, if the timing of the nodes is not synchronised or changes sporadically (due to a virtualisation environment, typically), index changes will not be correctly synchronised in the cluster. This is the most common cause of index sync problems in clusters.

If a node is disconnected from the cluster for a short amount of time (less than three hours), it will be able to bring its copy of the index up-to-date when it rejoins the cluster. If a node is down for a long amount of time and its lucene index has become stale as a result, you may want to avoid the expensive operation of rebuilding the index. To do that, you must copy a "live" version of the Lucene index from an active node. Simply replace the contents of the Confluence Home/index directory with those from an active node before bringing the stale node back up.

**Job synchronisation**

For tasks such as sending the daily report emails, it is important that only one node in the cluster does this. Otherwise you would get multiple emails from Confluence every day.

Confluence uses locks in the Coherence distributed cache to ensure only one node can be running certain jobs at a time. This ensures email notifications will only be sent once.

**Activity tracking**

Activity tracking does not work in a cluster, and will be disabled for clustered deployments. We're working on making the activity tracker clusterable in a future release. You can follow this issue. You can try some other options for tracking usage.

**Cluster panic**

In some situations, there can be a network issue or firewall that prevents the distributed cache from communicating but still allows Confluence to update the database. This is a dangerous situation because when the caches on the detached nodes become inconsistent, users on different nodes will see different information and updates can be lost.

Confluence can detect this problem by checking a database value against a cached value, and if they differ, all the clustered nodes will be shut down with a 'Cluster panic' message. This is considered a fatal error because the consequences can cause damage to your data. For those administrators that like to live on the edge, there is a system property to prevent cluster panic and allow data corruption. For more information, see Cluster safety mechanism.

If a cluster panic does occur, you need to ensure proper network connectivity between the clustered nodes. Most likely multicast traffic is being blocked or not routed correctly. See the networking summary below.

**Summary of network requirements**

In addition to normal connectivity with its database, all clustered Confluence instances require access to a multicast group and the ability to open a UDP unicast port.

By default, the multicast address is automatically generated from the cluster name you provide when starting the cluster and the multicast port is fixed. During cluster setup, Confluence will prompt for the unicast IP address to use if the server has multiple network interfaces, and by default the unicast port is fixed. The cluster multicast group will be joined on the same network interface as the bound unicast IP address.

For any settings which are not configurable through the Confluence web interface, they can be configured via an XML file in the Confluence home directory for more exotic networking requirements.

**Scaling Confluence On A Single Server**

Since the maximum addressable memory on a 32 bit JVM is 4GB, some large servers may scale Java applications by running JVM instances concurrently. This would be implemented as separate, clustered Confluence nodes running on a single server and communicating internally. Because each JVM replicates the cache entirely, it may be useful to test a single, massive instance running a 64 bit JVM as an alternative. This configuration may result in superior performance than an internal cluster.

**Geographically Distributed Clusters**

Collocating nodes is strongly recommended as high latency will almost certainly degrade performance due to the overhead of cache replication. Cluster nodes will provide the best performance if servers are physically adjacent. However, as long as all nodes share a LAN, users may wish to test alternative configurations to see how performance is affected.

**Related Pages**

- Server Hardware Requirements Guide
- Overview of Confluence Clusters

**Cluster safety mechanism**
Introduction

A mechanism was added in Confluence 2.3 and above to ensure database consistency when running multiple cluster nodes against the same database. This is called the cluster safety mechanism, and is designed to ensure that your wiki cannot become inconsistent because updates by one user are not visible to another. A failure of this mechanism is a fatal error in Confluence and is called cluster panic.

Because the cluster safety mechanism helps prevents data inconsistency whenever any two copies of Confluence running against the same database, it is enabled in all instances of Confluence, not just clusters.

How cluster safety works

A scheduled task, ClusterSafetyJob, runs every 30 seconds in Confluence. In a cluster, this job is run only on one of the nodes. The scheduled task operates on a safety number — a randomly generated number that is stored both in the database and in the distributed cache used across a cluster. It does the following:

1. Generate a new random number
2. Compare the existing safety numbers, if there is already a safety number in both the database and the cache.
3. If the numbers differ, publish a ClusterPanicEvent. Currently in Confluence, this causes the following to happen:
   - disable all access to the application
   - disable all scheduled tasks
   - update the database safety number to a new value, which will cause all nodes accessing the database to fail.
4. If the numbers are the same or aren't set yet, update the safety numbers:
   - set the safety number in the database to the new random number
   - set the safety number in the cache to the new random number.

How to fix it

Cluster Panic

Usually presents itself with the following error message:

```
FATAL [DefaultQuartzScheduler_Worker-4] [confluence.cluster.safety.ClusterPanicListener]
handleEvent Fatal error in Confluence cluster:
Database is being updated by an instance which is not part of the current cluster. You should
check network connections between cluster nodes, especially multicast traffic.
```

In almost all cases, cluster panic events are caused by two or more instances of Confluence (in separate clusters) updating the same database. Such events are typically caused by one of the following issues:

JVM paused (e.g. while swapping memory) can break communication between two nodes

Always watch the swapping activity of your server and avoid swapping due to lack of RAM. If there is not enough RAM available, your server may start swapping out some of Confluence’s heap data to your hard disk. This will slow down the JVM’s garbage collection (GC) considerably and affect Confluence’s performance.

- In clustered installations, swapping can lead to cluster panic. This is because swapping causes the JVM to pause during garbage collection, which in turn can break the inter-node communication required to keep the clustered nodes in sync.

Two instances of Confluence have been started in your application server

This is one of the most commonly encountered issues. The strangest case of this that we have seen so far involved a cloned image of a PC running Confluence that was later used in a remote office in a different city. The people using Confluence on the cloned instance were not aware that the original Confluence instance was also running and that both these Confluence instances were using the same production database server.

- Solution: Check your application server's configuration to make sure that multiple copies of the application server are not running concurrently. Database transaction logs can help identify the location of other application servers, if client IP addresses are recorded along with each transaction.

Two copies of your application server are running

Sometimes starting an application server twice will result in two processes running, even though only one can be accessed over the network.

- Solution: Check a list of running processes (for example, with the `ps` command in Posix-based operating systems like Linux, Unix and Mac OS X) and make sure your application server is only running once.

Networking failure between nodes in the cluster

- Solution: Check that multi-cast traffic is being transmitted successfully, and that the network between your nodes is low-latency (<100 ms).

Database server stops responding

If Coherence fails to retrieve the SafetyNumber from the database, the comparison will fail. If it fails to update it, the next comparison will fail, 30 seconds later.

Many things can cause this, including a scheduled shutdown for backups, network failure, a filled-up transaction-log partition and a changed password on the account used by Confluence to connect to the database.
Solution: resolve the problem with the database (or network), then restart Confluence

In all cases, when starting Confluence after a cluster panic, you must ensure all cluster nodes have been shut down completely. If necessary, use commands like `ps` and `kill` to get a list of Java processes and terminate them manually.

Please visit this document for troubleshooting advice if you encounter any of the above situations.

Technical details

The cluster safety number in the database is stored in the `CLUSTERSAFETY` table. This table has just one row: the current safety number.

Velocity Template Overview

Velocity is a server-side template language used by Confluence to render page content. Velocity allows Java objects to be called alongside standard HTML. Users who are writing User Macros, plugins or customised PDF exports may need to modify Velocity content. General information is available from the Velocity user guide.

Useful Resources

- Confluence UI architecture
- Confluence Objects Accessible From Velocity
- Customising Layouts
- Disable Velocity Caching
- Basic Introduction to Velocity
- What’s the easiest way to render a velocity template from Java code?
- Working With Decorator Macros

Basic Introduction to Velocity

Example Usage

A variable in velocity looks like this:

```
$foo
```

To set a variable:

```
#set ($message = "Hello")
```

A basic `if` statement:

```
#if ($message == "Hello")
  Message received and is "Hello"
#end
```

A velocity variable which evaluates to null will simply render as the variable name. See the Velocity User’s Guide

Related Content

- Confluence UI architecture (Confluence Docs 3.0) Labels: velocity-related, vm, sitemesh
- Confluence Objects Accessible From Velocity (Confluence Docs 3.0) Labels: velocity-related
- Customising Layouts (Confluence Docs 3.0) Labels: customising-looknfeel, velocity-related
## Confluence Objects Accessible From Velocity

The complete list of objects available for use are:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Doc Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>$body</td>
<td>The body of the macro (if the macro has a body)</td>
<td></td>
</tr>
<tr>
<td>$param0-n</td>
<td>The parameters passed to your macro (as available)</td>
<td></td>
</tr>
<tr>
<td>$param&lt;name&gt;</td>
<td>Named parameters passed to your macro (as available)</td>
<td></td>
</tr>
<tr>
<td>$config</td>
<td>The BootstrapManager object, useful for retrieving Confluence properties</td>
<td>BootstrapManager</td>
</tr>
<tr>
<td>$content</td>
<td>The current ContentEntity object that this macro is a included in (if available)</td>
<td>ContentEntityObject</td>
</tr>
<tr>
<td>$space</td>
<td>The Space object that this content object is located in (if relevant)</td>
<td>Space</td>
</tr>
<tr>
<td>$generalUtil</td>
<td>A GeneralUtil object, with useful utility methods for URL encoding etc</td>
<td>GeneralUtil</td>
</tr>
<tr>
<td>$action</td>
<td>A blank ConfluenceActionSupport object, useful for retrieving i18n text if needed</td>
<td>ConfluenceActionSupport</td>
</tr>
<tr>
<td>$webwork</td>
<td>A VelocityWebWorkUtil object, for its htmlEncode() method</td>
<td>VelocityWebWorkUtil</td>
</tr>
<tr>
<td>$req</td>
<td>The current HttpServletRequest object (if the page is rendered as a result of an HTTP request)</td>
<td>HttpServletRequest</td>
</tr>
<tr>
<td>$res</td>
<td>The corresponding HttpServletResponse object (not recommended to be played with)</td>
<td>HttpServletResponse</td>
</tr>
<tr>
<td>$userAccessor</td>
<td>For retrieving users, groups and checking membership</td>
<td>UserAccessor</td>
</tr>
<tr>
<td>$permissionHelper</td>
<td>For determining user rights</td>
<td>PermissionHelper</td>
</tr>
</tbody>
</table>

---

### Velocity Context in Exporters

The above context is not inherited by the Velocity context created for PDF or Word exports. To see the available objects in that context, see this page.

---

### Editing Files within JAR Archives

#### Configuration Files Location

With the release of Confluence 2.6.0, many files have been moved inside the main .jar file, which means they can no longer be edited by simply opening and saving a file.

#### Background

For those not familiar with the terminology, a .jar file is a Java ARchive file. It's like a Unix .tar file (or a Windows .zip file), and is managed by a very similar command-line tool `jar` which is included with the JDK. Essentially, it takes several files, or an entire directory structure, and compresses them together into a single file. This saves a little space, and makes it much easier to manage that group of files as a single unit. The terms "file" and "archive" can be used interchangeably in this context, as they refer to the same collection of bytes.

#### Instructions

To edit a file that exists inside a .jar file, you need to unpack the archive, perform the desired edits, then re-pack the archive:

- For a shortcut, drop the file in the WEB-INF/classes directory, creating the appropriate parent directories if necessary. This will take priority over what's in the jar file and allow you to edit the file more easily.
Special Note for Websphere

It's a bit inconvenient to modify files - add patches or configure velocity or xml files - if you have to rebuild and redeploy the war file. Websphere requires deploying Confluence as a built .war archive originally. After that, however, you can drop files in the exploded war directory and restart the application in the Websphere Console to pick up changes. For the case of Velocity (vm or vmd) files or jsp files, you don't even need to reload the application - just refresh your page!

A typical exploded war directory might be found in a path similar to:

```
/usr/lib/IBM/WebSphere/AppServer/profiles/AppSrv03/installedApps/serverName-laptopNode01Cell/confluence-2.10.2.war/confluence-2.10.2.war/
```

Keep in mind that this isn't a technique for deploying war files, but rather for modifications after deploy.

Unix or Linux

1. Shut down Confluence
2. Create a new working directory, e.g. /tmp/confluence-working
3. cd into that directory
4. Extract the contents of the `jar` file. To edit the main confluence jar:
   ```bash
   jar xf $CONFLUENCE/confluence/WEB-INF/lib/confluence-2.6.0.jar. You now have a directory structure, or at least a set of files, which are the contents of the .jar archive.
   ```
5. Edit the file or files
6. Ensure the original .jar is not in the working directory. If you copied or moved it there for unpacking, delete it or move it elsewhere, to prevent it becoming part of the new archive.
7. Repack the archive: from within the working directory, issue the command:
   ```bash
   jar cf /tmp/confluence-2.6.0.jar *. You now have a directory structure, or at least a set of files, which are the contents of the .jar archive.
   ```
8. Copy the new .jar into <confluence-install>/confluence/WEB-INF/lib/. Make sure the old version of the jar has been removed.
9. Restart Confluence

Windows or OS X

If you're familiar with the command line, you can use the Unix instructions above on a Windows or OS X system as well. Alternatively, you can use just the OS User Interface:

1. Shut down Confluence
2. Copy the .jar file at <confluence-install>/confluence/WEB-INF/lib/confluence-x.y.z.jar file.
3. Extract the contents of the .jar file using an unzipping utility like Winzip, 7-zip, Stuffit or the OS X Archive Extractor.
4. Edit the file or files
5. Ensure the original .jar is not in the working directory. If you copied or moved it there for unpacking, delete it or move it elsewhere, to prevent it becoming part of the new archive.
6. Repack the archive: from within the working directory, rezip the files using your utility. Make sure you are zipping the contents of the file, not the "confluence-x.y.z" parent folder that encloses all the files.
7. Take a backup copy of the original .jar file. It's often convenient to leave it in the main Confluence directory and just rename it to something like confluence-2.6.0.jar.original. Make sure the file name does not end with a .jar extension.
8. Copy the new .jar into <confluence-install>/confluence/WEB-INF/lib/. Make sure the old version of the jar has been removed.
9. Restart Confluence

RELATED TOPICS

Installing Patched Class Files
Where are the files that used to be in my Confluence installation directory?

Rendering Velocity templates in a macro

When writing a macro plugin, it's a common requirement to render a Velocity file included with your plugin. The Velocity file should be rendered with some data provided by your plugin.

The easiest way to render Velocity templates from within a macro is to use `VelocityUtils.getRenderedTemplate` and simply return the result as the macro output. You can use it like this:

```java
public String execute(Map params, String body, RenderContext renderContext) throws MacroException {
    // do something with params ...
    Map context = MacroUtils.defaultVelocityContext();
    context.put("page", page);
    context.put("labels", labels);
    return VelocityUtils.getRenderedTemplate("com/atlassian/confluence/example/sample-velocity.vm", context);
}
```
Confluence UI Guidelines

These are Atlassian's internal guidelines, published for the reference of plugin developers. More thorough documentation can be found in the Plugin development guide. Not all of these guidelines are followed throughout Confluence yet, but they set the direction of our future work in the product's front-end.

Separation of content, presentation and behaviour

It is imperative that functionality in Confluence separate content, presentation and behaviour for maintainable front-end code. This means the following:

- HTML content goes in Velocity files. No CSS or JavaScript goes in Velocity files. Not even in style or onclick attributes.
- CSS styles go in CSS files.
- JavaScript code goes in JS files. JS files must be static and not generated by Velocity or any other mechanism.

The remainder of this document describes how to achieve this in Confluence.

Naming Conventions

At the moment we have two simple naming rules:

- use dashes for HTML element ids or class names e.g. comment-actions
- use camel cases for variables, method names in javascript e.g. commentToggle()

Markup

Wherever possible, use meaningful tags in your markup and do not use markup for formatting (e.g. `<strong>`) or layout (e.g. `<table>`). For example, the following markup is suitable for the File menu in an application:

```html
<h3 class="menu-title">File</h3>
<ul class="navigation menu">
  <li id="menu-item-new-window"><a href="#">New Window</a><span class="shortcut">N</span></li>
  <li id="menu-item-new-tab"><a href="#">New Tab</a><span class="shortcut">T</span></li>
  ...
</ul>
```

The use of meaningful tags, rather than a sea of tables and divs make it rendering the page without stylesheets possible, and provide better degradation in mobile browsers, Internet Explorer, and so on.

Assign classes and IDs that allow you to style the content appropriately. Use multiple classes in markup when required, but be aware that IE has limitations with parsing style selectors including multiple classes. Ensure IDs are unique within the page or Javascript code will not be able to access the elements properly.

Do not use inline script and style tags. Put them in separate CSS and JS files and use `#requireResource` to tell the WebResourceManager that you require a particular resource on this page. Note, this macro does not generate the actual markup but is done in `conf-webapp/src/main/webapp/decorators/includes/header.vm` via `$webResourceManager.getResources()`.

Including Web Resources

Confluence web resources (css & javascript) are now all defined in a System Web Resources plugin under `confluence/src/etc/java/plugins/web-resources.xml`. You should no longer use the `#includeJavascript` macro that generates inline script tags wherever you invoke it. You should now use `#requireResource(pluginKey:webResourceKey)` to tell the WebResourceManager that you require a particular resource on this page. Note, this macro does not generate the actual markup but is done in `conf-webapp/src/main/webapp/decorators/includes/header.vm` via `$webResourceManager.getResources()`.
Currently, we don't have a way to indicate dependencies between the web resources. For example, it would be nice to define in the web resource module 'ajs web depends on yui-core'. The work around at the moment is to explicitly make calls to \#requireResource in the order you would like the resources to be included. Multiple calls to the same web resource does not result in multiple includes of that resource, but rather the WebResourceManager will try to maintain the 'order' in which the resources were called. This is why you may see duplicate chunks of \#requireResource scattered throughout Confluence.

For more information about the declaration and inclusion of web resources, see: Including Javascript and CSS resources.

Stylesheets

No more site.css.vm

We no longer have the huge site.css.vm velocity template. This has been split up into separate css files:

- master.css, master-ie.css, wiki-content.css and more (see master-styles web resource module)
- default-theme.css
- colors.css.vm

The only dynamic styles in Confluence are the colors set by colour schemes, hence all color styling was extracted into colors.css.vm.

We also have a separate stylesheet for the setup wizard, setup.css.

Stylesheet ordering

CSS resources are included in the following order:

1. Confluence default styles (resources included via calls to \#requireResource such as master.css)
2. Colour scheme styles
3. Theme styles

Colour scheme and theme styles are also included in the header via the combined.css action call. It essentially produces a set of imports to other css resources, hence the name 'combined'.

Sample output of combined.css

Note, the old monster main-action.css (i.e. StylesheetAction) has now been deprecated and split into separate actions.

Style guidelines

Use the shortest form wherever possible. That means using three character colours, combined margin declarations, simple selectors, and so on:

Avoid child selectors like ul > li. Instead use a class name of "first" for compatibility with IE. (You can use child selectors if you want to intentionally exclude IE, however.)

When designing a new section of Confluence, consider using a style reset to clear out default styles for lists, paragraphs and so on.

Internet Explorer stylesheets

Very often, it's desirable to serve custom styles to Internet Explorer. Confluence web resources can be marked as 'ieOnly' in order to be rendered in conditional comments only parsed by IE.
See Including Javascript and CSS resources for more details and an example of how to do this.

**Print stylesheets**

Stylesheet web resources can be include a `media` parameter with a value of `print` to have media="print" included on their `<link>` tag so they are only used for printing. See the master-styles web resource in Confluence's web-resources.xml for an example. Any media type will be passed directly into the link tag, so you can also provide styles for handheld, projector media types, etc. as supported by your user’s browsers.

See Including Javascript and CSS resources for more details and an example of how to do this.

### JavaScript

#### JavaScript guidelines

Use closures to prevent unnecessary variables and functions being exposed in the global scope. For example, the code below binds an onclick handler to a button in the page without exposing itself or its variables in the global scope:

```javascript
jQuery(function ($) { // I am a closure, hear me roar!
  var i = 0;
  function increment() { alert(i++); }
  $('button.counter').click(increment);
});
```

Don’t introduce new global variables in JS. Rather put them under some namespace such as `AJS.Editor.MyGlobalVariable`.

Don’t mix Velocity and Javascript code. See Passing dynamic values to Javascript if you need to pass dynamic values to Javascript.

#### Atlassian.js (AJS)

To avoid depending on a particular JavaScript library too much, we have atlassian.js ("AJS") as an abstraction on top of each particular library’s functions. In Confluence 2.9, AJS wraps jQuery so many functions work in the same style as that library. Throughout Confluence’s JavaScript, we should use AJS to make common function calls such as `$.toggleClass` etc. wherever possible. This enables us to easily change the underlying JavaScript library later on if necessary.

#### Event Handlers

In the past, we have used embedded event handling like (horribly) so:

```html
<tr bgcolor="ffffff" onMouseOver="style.backgroundColor='f0f0f0'"
  onMouseOut="style.backgroundColor='ffffff'"
  onclick="javascript:checkRadioButton('themeKey.default');">
  ...<tr bgcolor="ffffff" onMouseOver="style.backgroundColor='f0f0f0'"
  onMouseOut="style.backgroundColor='ffffff'"
  onclick="javascript:checkRadioButton('themeKey.default');">
```

We are now moving to binding event handlers in javascript, using the jQuery's `bind` function.

```javascript
AJS.toInit(function () {
  AJS.$('#markupTextarea').bind("click", function () {
    storeCaret(this);
  });

  AJS.$('#markupTextarea').bind("select", function () {
    storeCaret(this);
    storeTextareaBits();
  });

  AJS.$('#markupTextarea').bind("keyup", function () {
    storeCaret(this);
    contentChangeHandler();
  });

  AJS.$('#markupTextarea').bind("change", function () {
    contentChangeHandler();
  });

  AJS.$('#submit-buttons').bind("click", function (e) {
    AJS.Editor.contentFormSubmit(e);
  });
});
```

You may have noticed in the above example, all the binds are wrapped in a `AJS.toInit()` function. This is only necessary if you require the code to be fired after DOMReady.
Unfortunately, we haven’t been able to port all the embedded event handler code to Javascript. If you encounter such code during development, please fix it up as you go 😊

Using jQuery directly

For advanced dynamic functionality, you can use jQuery directly. However, we don’t allow jQuery to set the global $ variable (which is still used by Prototype.js), so you should use the jQuery’ global variable as shown below.

To use jQuery properly in a JS file, do the following:

```javascript
jQuery(function ($) {
    // your code goes here
    // use '$' for jQuery calls
});
```

Passing dynamic values to Javascript

We are now trying remove inline scripts that are scattered throughout Confluence. Most of these inline scripts are in the velocity templates so dynamic values such as i18n strings and values from actions can be used in the script. We now have a way around this via AJS.params. You simply need to define a fieldset in your template with classes “hidden” and “parameters”. AJS will automatically populate itself with the inputs defined in the fieldset.

Example from page-location-form.vm

```html
<fieldset class="hidden parameters">
    <input type="hidden" id="editLabel" value="{$action.getText('edit.name')}">
    <input type="hidden" id="doneLabel" value="{$action.getText('done.name')}">
    <input type="hidden" id="showLocation" value="{$action.locationsShowing}">
    <input type="hidden" id="hasChildren" value="{$helper.action.page.hasChildren()}">
    <input type="hidden" id="spaceKey" value="{$action.space.key}">
    <input type="hidden" id="pageId" value="{$pageId}">
    <input type="hidden" id="actionMode" value="{$mode}"
    <input type="hidden" id="parentPageId" value="{$parentPage.id}">
</fieldset>
```

With the above code, you would use the above i18n edit label by calling AJS.params.editLabel in your javascript.

If your i18n message includes variables in the form {0}, {1}, etc. which are meant to be populated by JavaScript values, you can use the AJS.format() function to present them. For example:

```javascript
$('.draftStatus').html(
    AJS.format(AJS.params.draftSavedMessage, time) // "Draft saved at {0}" 
);
```

The second and subsequent arguments to AJS.format replace all instances of {0}, {1}, etc. in the first argument, which must be a String.

Related pages

- Including Javascript and CSS resources
- Web UI Plugins
- Confluence Plugin Guide
- Anti-XSS documentation
- W3C HTML 4.0 specification

Deprecation Guidelines

⚠️ These are guidelines related to the development of Confluence. The guidelines mainly apply to Atlassian employees, but reading them should provide insight for third-party plugin developers as well, so we decided to make them public.

Because Confluence doesn’t have an official API yet, you should assume that any change you make to manager interfaces, model objects, services, or really any commonly used code will in some way impact third-party plugin developers. As such, we should always be careful to deprecate, rather than remove old functionality.
Deprecation

All deprecated methods in Confluence MUST include, as the first thing after the `@deprecated` tag, the text "since n", where n is the version number at which the tag was added, followed by either a short explanation of why the method should not be used, or a direction to use a different method.

Rationale

Because we want to keep third-party developers happy, we should deprecate methods that may be used by plugins instead of just deleting them. **However**, deprecated methods pollute the namespace, and keeping them around indefinitely just encourages people to continue to use them.

Therefore, we should record when a method has been deprecated, and before each major release we should remove anything that has stayed deprecated for more than six months or two major versions (whichever is longer).

Examples

For a simple redirect, the deprecation tag is the only Javadoc the method should require. Developers should consult the doc for the linked alternative to find out more about what the method is likely to do:

```java
/** @deprecated since 2.3 use {link Space#isValidSpaceKey} */
boolean isValidSpaceKey(String key);
```

For a "this is no longer the right way to do things" deprecation, a longer explanation may be required, and the old Javadoc may need to be retained for developers who are still stuck doing things the old way for some reason. A short explanation is put in the deprecated tag itself, and the detail is put in the main body of the Javadoc:

```java
/**
 * Return all the content a user has authored in this space.
 * <b>Warning:</b> This method has been deprecated since Confluence 2.1 because it is
 * insanely inefficient to do in the database. You should migrate your code to use the
 * SmartListManager instead, which will get the results from Lucene.
 * @deprecated since 2.1 use the [link SmartListManager] for complex queries
 */
List getContentInSpaceAuthoredBy(String spaceKey, String username);
```

When Not to Deprecate

In some situations, maintaining deprecated methods may be impossible. For example:

**You should never deprecate when...**

- The underlying model has changed, rendering any client of the old code obsolete. For example if you move from `Permission getPermission()` to `List getPermissions()`, the former method would return dangerously incorrect information if it were maintained, and thus should be deleted.
- The old way of doing things is dangerous. For example, if `userManager.getAllUsers()` is being removed because it kills the server, we should not feel guilty forcing plugins to upgrade to the safe way of doing things.

**You should make a judgement call when...**

- There would be significant effort required to maintain parallel, deprecated way of doing things for six months
- You would be forced to write an ugly API because all the "right" method/class names are taken up with deprecated methods (assume the new way of doing things will stick around forever)

DTDs and Schemas

This page is intended to host custom DTDs and schemas used internally by Confluence.

<table>
<thead>
<tr>
<th>Name</th>
<th>Size</th>
<th>Creator (Last Modifier)</th>
<th>Creation Date</th>
<th>Last Mod Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>hibernate-mapping-2.0.dtd</td>
<td>25 kB</td>
<td>Chris Kiehl (modified by Chris Kiehl)</td>
<td>Jan 01, 2009</td>
<td>Jan 01, 2009</td>
<td></td>
</tr>
</tbody>
</table>

Exception Handling Guidelines
These are guidelines related to the development of Confluence. The guidelines mainly apply to Atlassian employees, but reading them should provide insight for third-party plugin developers as well, so we decided to make them public.

Randomly sorted guidelines.

1. Don’t catch `Exception` unless that’s all you’re having thrown to you.
2. Don’t declare that you throw `Exception` ever.
3. Both rules #1 and #2 apply to `RuntimeException` as well.
4. Don’t catch `Throwable` if you want to continue breathing.
5. Rule #4 applies to `Error` and any subclasses of `Error` as well.
6. Don’t catch, log and rethrow.
7. Familiarise yourself with the standard `RuntimeException` subclasses (IllegalStateException, IllegalArgumentException, UnsupportedOperationException, IndexOutOfBoundsException), and use them in preference to creating your own runtime exception class.
   - For example, if the problem is that an object reference (or "pointer") which you didn’t expect to be null is in fact null, why not throw a `NullPointerException`?
8. If you explicitly throw any `RuntimeException` in a method, document it in the method’s `@throws` Javadoc like you would a checked exception.

**Meaningful exceptions**

Where possible create, document and throw meaningful unchecked exceptions. For example, write this:

```java
public class MyGroupManager
{
    /**
     * @throws InvalidGroupException if the group cannot be handled
     */
    public void handleGroup(Group group) throws InvalidGroupException
    {
        if (!isValidGroup(group))
            throw new InvalidGroupException("Group is invalid: " + group.toString());
        // do something with the group
    }
}
```

In preference to this:

```java
public class EvilGroupManager
{
    public void handleGroup(Group group)
    {
        if (!isValidGroup(group))
            throw new RuntimeException("Group is invalid: " + group.toString());
        // do something with the group
    }
}
```

The latter implementation is not as good because it gives the calling code very little discretion as to what kind of exceptions it wants to handle.

**Hibernate Sessions and Transaction Management Guidelines**

These are guidelines related to the development of Confluence. The guidelines mainly apply to Atlassian employees, but reading them should provide insight for third-party plugin developers as well, so we decided to make them public.

**Transaction Management**

Transaction demarcation is provided by Spring, with a few wrinkles.

- We wrap managers in transaction interceptors, but not DAOs.
- We use whatever the default isolation level is for whatever database we’re connecting to.
- We commit the transaction manually between performing an action, and displaying the view.

The last point is necessary because in some cases, we were sending redirect responses to the browser *then* committing the transaction. A
quick browser would request the redirect page before their transaction was committed, and view stale data as a result. By committing the transaction before we render the view, we make sure that everything we expect to be in the database is in the database before the browser has a chance to re-request it.

**Hibernate Sessions**

Sessions are a Hibernate construct used to mediate connections with the database.

The session opens a single database connection when it is created, and holds onto it until the session is closed. Every object that is loaded by Hibernate from the database is associated with the session, allowing Hibernate to automatically persist objects that are modified, and allowing Hibernate to implement functionality such as lazy-loading.

**Disconnected Objects**

If an object is evicted from its session (for example via a clear, see below), or the session is closed while the object is still kept alive, the object is "disconnected" from the session. A disconnected object will continue to work so long as you don't perform any operation that it needs to go back to the database for, such as accessing a lazily-loaded collection.

If you see a `LazyInitializationException`, it means that a Hibernate-managed object has lived longer than its session.

Managed objects are not portable between sessions. Trying to load an object in one session then save it into another session will also result in an error. (You can use `Session.load()` or `Session.get()` to re-introduce an object to a new session, but you're much better off fixing whatever problem is causing you to try to move objects between sessions in the first place.

**Caching**

Storing hibernate objects in caches is a bad idea. By definition, a hibernate-managed object placed in a cache will outlive its session. Even if caching such an object is safe now, it's quite likely that in the future we might switch some of its properties to be lazily-loaded, or change code-paths so that properties that were previously being loaded before the object was cached aren't being loaded any more. The `LazyInitializationException` errors that result rarely show up in tests, and are hard to diagnose and fix.

Hibernate maintains its own second-level cache (shared between Confluence nodes via Tangosol Coherence) that does not suffer from this problem. Use it in preference to manually caching Hibernate data.

If you need to cache information from Hibernate, don't cache the Hibernate objects themselves. A useful alternative is to cache the object's ID and class, and then retrieve the object in the context of the current session using `Session.get(class, id)`. ID lookups go straight through Hibernate's own second-level cache, so there is (hopefully) efficient. The `getHandle()` and `findByHandle()` methods of the `AnyTypeObjectDao` provide a helpful API for doing just this.

**Flushing and Clearing**

When the session persists its changes to the database, this is called "flushing". During a flush, each object associated with the session is checked to see if it has changed state. Any object with changed state will be persisted to the database, regardless of whether the changed objects are explicitly saved or not. You can configure Hibernate's flush behaviour, but the default (`FlushMode.AUTO`) will flush the session:

- When you manually call `flush()` on the session
- Before Hibernate performs a query if Hibernate believes flushing is necessary for the query to get accurate results
- When a transaction is committed
- When the session is closed.

How long a flush takes is a function of the number of objects associated with the session. Thus, the more objects you load during the lifetime of a session, the less efficient each query will be (as a flush will generally be done prior to each query). If you have some long-running operation that gets slower and slower as it runs, it's possible that the Hibernate session is the cause.

Operations that cycle through large numbers of objects may want to periodically `clear()` their session. Clearing will dissociate all objects from the session, so they won't build up making flushing slower and slower. **Clearing a session does not flush it first**, so you'll want to flush manually or you will lose any pending, unsaved changes.

**Multi-threading**

Hibernate sessions are not thread-safe. Not only does this mean you shouldn't pass a Hibernate session into a new thread, it also means that because objects you load from a session can be called from (and call back to) their owning session, you must not share Hibernate-managed objects between threads. Once again, try to only pass object IDs, and load the object freshly from the new thread's own session.

Spring's transaction management places the Hibernate session in a ThreadLocal variable, accessed via the `sessionFactory`. All Confluence DAOs use that ThreadLocal. This means that when you create a new thread you no longer have access to the Hibernate session for that thread (a good thing, as above), and you are no longer part of your current transaction.

**The Session In View Filter**

Confluence uses the "Session in view" pattern for managing Hibernate sessions. The `SessionInViewFilter` opens a Hibernate session which is then available for the entire web request. The advantages of this is that you avoid session-related errors:

- The session lifecycle is uniform for every request
- Hibernate objects remain "alive" for the whole request, thus you can still retrieve lazily-loaded data in Velocity templates
The disadvantages are:

- Each request monopolises a database connection from the moment a request comes in, to the last byte sent to the client
- Each session will end up associated with every object that is loaded for the duration of the request
- Developers are often caught out by the way sessions behave when threads haven't come in through the web tier (i.e. Quartz jobs)

Non-Web Requests

Non-web requests do not automatically have a Hibernate session to work with, because they don't come in through the Session In View Filter. This includes start-up events, quartz jobs, and any long-running task that spawns a new thread. As a result, a new session will be opened when you make a call to a transaction-managed Spring object, and closed when that call returns.

A very common programming error in this context is to retrieve a collection of objects from a manager, then do something to each object. The moment the call to the manager returns, all objects will be detached from their containing session. If you try to do anything to them after that, you won't get the result you expected. I'm not sure if this sequence diagram helps, but here goes...

---

**High Level Architecture Overview**

These are guidelines related to the development of Confluence. The guidelines mainly apply to Atlassian employees, but reading them should provide insight for third-party plugin developers as well, so we decided to make them public.

---

**The Disclaimer**

This document represents the ideal arrangement of components in Confluence. This architecture should be the target of our refactoring, and should inform any new features we add to the system.

---

**The Goals**

For the first three years of its development, little attention was paid to the high-level structure of the Confluence application. As such, it grew organically and developed interesting quirks on the way. This document tries to make sense of Confluence from a high level, to make the application easier to work with, easier to explain and easier to extend.
The goals are:

- Clearly defined separation of concerns
- Clearly defined interfaces between components
- Clearly defined dependencies between components
- Easier integration testing of components
- Looser coupling

The Metaphor

Imagine an operating system.

- At the lowest level you have the bootstrap code, which is required for going from a state of having nothing, to one where the rest of the system can be loaded.
- At the next level, the operating system provides device drivers, network abstractions and the like, generic services that any application can use.
- On top of those services you might run an application

Bootstrap

The Confluence Bootstrap Process is responsible for bringing up enough of Confluence that the rest of the system can be loaded. In Confluence’s case, this involves:

- Locating the confluence home directory and the confluence.cfg.xml file
- Determining whether the system is set up or not
- Determining if we need to join a cluster or not
- Loading the database connection configuration (either from the config file, or from the cluster)

Based on this information, the bootstrap process can determine what to do next, and provide enough configuration for the core services that they know how to start up.

Bootstrap is implemented as a Spring context, in bootstrapContext.xml. It is loaded as a parent context to any subsequent Spring context. It is available as a static singleton from BootstrapUtils.

Setup (a digression)

Confluence’s in-browser setup requires a number of components that aren’t used anywhere else. For example it needs a dummy plugin manager so that i18n works before we have a real plugin manager available. Ideally, setup should be a separate Spring context that is loaded when setup is required, and disposed of when setup is complete.

Currently this is not the case - setup components are loaded as part of the bootstrap context and remain indefinitely. To fix this will need some work on the atlassian-setup component, which annoyingly conflates setup and bootstrap.

The Main Spring Context

Once the system has been bootstrapped, and setup has (at least) reached the point where we know how to connect to the database, the main spring context is loaded as a child of the bootstrap context. The main Spring context, available as a static singleton from ContainerManager, contains the remainder of Confluence’s Spring configuration, loaded from a lot of different XML files in WEB-INF/classes.

The list of XML files to load for the main Spring context is defined in the contextConfigLocation parameter in web.xml.

Loading these files in some specific order (as parent/child contexts) might make sense as a way of enforcing component boundaries, but I’m not convinced the benefit is worth the effort.

See also: Spring Usage Guidelines

Services

These are generic services that you might consider useful to any application, like database access, caching, plugins, events, indexing/searching, and so on. A good way to think of the service layer is to imagine a theoretical library called "atlassian-base", consisting only of Confluence’s bootstrap and service layers, which could be used as the basis for any new Atlassian web application.

Services can have dependencies on the bootstrap manager, and on each other, but there should never be a circular dependency between services, and there should never be a tightly coupled dependency between a service and application code.

Interdependencies between services should be minimised. When introducing a dependency between services, ask if this dependency is necessary or incidental.

Services are defined in XML config files in WEB-INF/classes/services.

- One file per service
- Each file should have a header comment describing the service, and explicitly declaring any dependencies on other services
- Each file should be divided into "PUBLIC" and "PRIVATE" sections, delineating which components are part of the service’s public façade, and which are only for internal use
- All beans defined in services must be explicitly wired. No autowiring.

In the future, once the service system has been bedded down, we might introduce some kind of naming convention for private beans to make
it harder to use them accidentally outside the context.

Confluence Services

Subsystems

Below the service layer is the Confluence application itself, which is divided into subsystems. More on this when I know what to do with them myself.

Javadoc Standards

These are guidelines related to the development of Confluence. The guidelines mainly apply to Atlassian employees, but reading them should provide insight for third-party plugin developers as well, so we decided to make them public.

New Standard

Much of the Confluence codebase does not yet conform to this standard. Confluence developers should help the Confluence codebase out by bringing any code they touch into line with this standard.

Read Me First

You really, really should read the Sun guide to writing Doc comments: http://java.sun.com/j2se/javadoc/writingdoccomments/, especially the advice about avoiding phrases like “This class...” or “This method...”

The Rules

- All classes must have a doc comment
- All public constants must have a doc comment
- All public methods must have a doc comment except:
  - Methods that implement or override a method in an interface or superclass without adding any interesting behaviour beyond what is already documented for the overridden method
  - Trivial getters or setters

A trivial corollary to the above rule: all methods declared in an interface must have doc comments.

Things You Should Document

- Any side-effects of the method should be clear from the doc comment
- @param tags for each parameter, even if the content is trivial
- @returns tag for the return value, even if trivial
- What type of object will be contained in any returned collection
- What happens if any of the arguments supplied to the method are null (saying “Should never be null” in a {{@param}} is sufficient if the behaviour is undefined, but probably bad)
- Whether the method ever returns null, or if not, what it returns if there is no value
- @throws tags for all declared exceptions, describing the circumstances they are thrown
- @throws tags for any likely undeclared exceptions
- @since tag for any interface, or interface method
- @see tags for other classes or methods that interact with the thing being documented in interesting ways, or for other ways to get the same information

Tip

If you say something in the doc comment, you should have a test that proves it's true.

Things to avoid

- Don't use the @author tag
- Don't use the @version tag

Package Level Comments

...would be nice, but every time I've attempted to add them, I've come up against how badly our packages are structured. I'd say not to bother right now.

Deprecation

So we don't keep stale methods around forever, we should always document when a method was deprecated. For example:
Logging Guidelines

The Purpose of Logging

Logging has three customers:

- The user (server administrator) wants to know if their server is running correctly
- Atlassian support wants evidence of possible problems
- Developers want to be able to trace code execution without attaching a debugger

When you write any code in Confluence, you should ask yourself what you would want to see, from the point of view of the above three people. If you were running a server, what would you want to be notified of? If you were handling a support case regarding some problem with the system, what information would you need? If you were tracing a bug in the code, what would you want to see logged?

Loggers

The current practice in Confluence is to create a `static final logger` called `log` (`lower-case in each class that needs to perform logging. This may need to be addressed in the future. You will find some old code still uses `Category.getInstance()` instead of `Logger.getLogger()`. Category is deprecated in newer versions of log4j, and should be phased out as you find it.

```java
private static final Logger log = Logger.getLogger(TheCurrentClass.class);
```

There is a special log called `startupLog` in `ConfluenceConfigurationListener`, which defaults to logging at `INFO` level, and is used to print out informational messages on system startup. Use this definition for startup messages:

```java
private final static Logger startupLog = Logger.getLogger("com.atlassian.confluence.lifecycle");
```

Log Levels

- **DEBUG** Fine-grained information about what is going on within the system.
- **INFO** Announcements about the normal operation of the system - scheduled jobs running, services starting and stopping, significant user-triggered processes
- **WARN** Any condition that, while not an error in itself, may indicate that the system is running sub-optimally
- **ERROR** A condition that indicates something has gone wrong with the system
- **FATAL** A condition that indicates something has gone wrong so badly that the system can not recover

Default Log Level

The standard Confluence log (level WARN) is a way for Confluence to communicate with the server administrator. Anything we log to this file will worry the administrator in some way. Logging at WARN level and higher should be reserved for situations that require some kind of attention from the server administrator, and for which corrective action is possible.

We should assume that any time Confluence logs a WARN level message or higher, the customer will create a support case, and will expect us to provide a solution that prevents that message from happening again.

Context

You can rarely put too much context in a log message. Don’t just say an operation failed. Say what operation you were attempting when it failed, what object you were trying to act on, and why. Remember to log the exception, so a stack-trace can be logged.

Bad:

```java
log.error("Unable to save page: " + exception.getMessage());
```

Better:
The Mapped Diagnostic Context

The log4j MDC allows you to add contextual information to a ThreadLocal, which is then included with subsequent log messages. This is a useful tool when you need to add the same contextual information to a lot of log messages.

For example, we currently use the MDC in the LoggingContextFilter to add the request URL and current user to the logging context for every web request.

Example usage:

```java
while (objectsToIndex.hasNext())
{
    Searchable obj = (Searchable) objectsToIndex.next();
    try
    {
        MDC.put("Indexing", obj.toString());
        index(obj);
    }
    finally
    {
        MDC.remove("Indexing");
    }
}
```

Logging Risks

Logging has the potential to introduce Heisenbugs into your code, because the act of turning logging on to look for an error changes the code-paths around where the error is occurring. For example, logging often calls `toString()` on the objects it wants to log information about. In turn, the `toString()` method of an object may have unexpected side-effects, for example causing some lazy-loaded Hibernate property to be loaded in from the database.

Also, make sure to check that an object can’t be null when calling a method on it. Especially when reporting errors, do go the extra mile to query for null, e.g. like this:

```java
if (previousPage!=null) {
    previousPageOutdatedId=previousPage.getOutdatedId();
}
```

instead of

```java
log.error("Unable to revert to previous page "+ previousPage.getOutdatedId());
```

Logging Performance

- Always wrap debug-level logging in `isDebugEnabled()` checks.
- Put any frequently-accessed info-level logging in an `isInfoEnabled()` check.
- Avoid logging inside a tight loop, and if you have to make sure it’s at the debug level.

Logging progress

It is absolutely vital that some kind of logging is done during a long running task. At least at the start and at the end of it. Usually, a loop will call a single operation very often. Make sure that - depending on how long a single call takes - you log each 10th, 100th, 1000th operation. If possible add the complete number of operations that will have to be performed, e.g. in the form " executing delete user (2000/5301)"

Migrating to Velocity 1.5

Confluence trunk development (2.8) will be based on Velocity 1.5. The migration to the latest version of Velocity brings with it some issues that Confluence developers need to be aware of.
Word tokens are no longer valid as the first argument to Velocimacros

In Velocity 1.4, the velocimacro syntax was changed to prevent the use of work tokens as the first argument to most directives (except for defining the macro itself). This makes the following, common webwork structure fail to parse in Velocity 1.4 and beyond.

This means that you must quote the first argument to make it a proper string.

For these directives to work correctly with the new syntax a patched version of Webwork 2.1 is also required. Confluence now depends on this custom version of Webwork 2.1.

Multi-line comments behave strangely in Velocimacros

Due to an apparent bug in Velocity 1.5, multi-line comments in Velocimacros can cause ParseExceptions. Multi-line macro comments have mainly been used in Confluence to control the output of extraneous whitespace during the rendering of a macro. To work around this issue a new trim() directive has been introduced that can be used to strip whitespace from macro rendering. This unfortunately introduces a slight overhead to rendering as whitespace must be trimmed in every execution at runtime rather than stripped by the lexer at template parsing time.

We'll be able to revert to the previous method once VELOCITY-537 is fixed and integrated, although it's arguable that the new directive makes for more maintainable macros.

Exceptions from method executions in macro parameters are no longer swallowed

Due to another bug in Velocity 1.3, exceptions that occur during a method execution in a macro parameter evaluation were swallowed silently; the return value of such executions was null. Velocity 1.5 contains a fix for this which means its likely that we are going to run into situations where pages which previously worked regardless of broken method calls are going to fail with a MethodInvocationException. There's only one correct solution here: fix the broken method calls as we find them.

Equality test operator is more strict

In previous versions of Velocity testing for equality using just a single = worked. This has been made stricter in Velocity 1.5; you must use == otherwise a ParseException will be thrown.

Backwards compatibility with Velocity templates used in existing themes and plugins

We realise that some of the changes that Velocity 1.5 brings to Confluence could cause annoying compatibility problems and lots of work for plugin maintainers, particularly the new Velocimacro syntax requirements. Confluence 2.8 will load all plugin templates using a special resource loader which will attempt to automatically fix loaded templates to work with the new Velocity engine (com.atlassian.confluence.util.velocity.Velocity13CompatibleResourceLoader). This does add some additional overhead to plugin loading (the template is adjusted once at load time and then cached) but it will ease the burden on plugin developers during this transitional period.

It is still a good idea for plugin authors to use the new Velocimacro syntax; updating your templates can be made easier by looking for the info messages logged by the resource loader whenever it finds incompatible syntax.
Spring Usage Guidelines

These are guidelines related to the development of Confluence. The guidelines mainly apply to Atlassian employees, but reading them should provide insight for third-party plugin developers as well, so we decided to make them public.

All new Spring component code should follow these guidelines. If you come across existing code that doesn't follow them, consider refactoring it to do so.

For an overview of how Spring is used in Confluence, see Spring IoC in Confluence.

General Rules

- For singleton components, prefer constructor-based injection with final fields for dependencies.
- If you have too many components to fit comfortably in a constructor, that's a sign the design is broken.
- Autowiring should only be used for transient, programatically constructed objects like actions and plugins. Never autowire anything that's defined in a config file.
- If a component is rarely used (i.e. the upgrade manager), consider giving it prototype scope instead of singleton.
- Avoid circular dependencies. If you see a circular dependency, ask yourself:
  - Can this problem be solved using events?
  - Can this problem be solved by having one party register a callback?

Transaction Management

- Transactions should be wrapped around the manager layer.
- Use the old-style Spring 1 transaction configuration syntax with explicit proxies - the Spring 2 pointcut syntax seems to slow down container startup (and thus test-running) by a factor of ten.

Profiling

- Managers and DAOs should be wrapped by the profiling interceptor
- If you're wondering whether a bean should be profiled or not, veer towards yes

Notes

Could we use some kind of funky XML Spring extension so we could declare a bean like this and have the extension apply the relevant interceptors?

```xml
<bean name="blahManager" class="com.example.BlahManager" atl:txn="defaultManagerTxn" atl:profile="yes"/>
```

Confluence Developer FAQ

This is a constantly updated FAQ listing questions and answers asked by people developing Confluence plugins and working with the Confluence code base in general. For general questions, check Confluence FAQ.

If you have a question, please ask it as a comment and someone from Atlassian will reply. Comment threads will gradually be merged back into this FAQ as needed. Please try to be as specific as possible with your questions.

Questions

- How does RENDERMODE work?
- Encrypting error messages in Sybase
- How do I get the information about Confluence such as version number, build number, build date?
- How do I make my attachments open in a new window or a tab?
- How do I tell if a user has permission to...?
- Disable "Remember my login on this computer"
RELATED TOPICS

Accessing Classes from Another Plugin

Disable "Remember my login on this computer"

At the moment there is no available option for disabling "Remember My Login on this computer" feature via the Admin console. However, there is a feature request available.
As a workaround, one can make modification to the velocity file `login.vm`. This would require a server restart nevertheless.

The steps required are as follow:

- Stop Confluence
- Go to your confluence install directory
- Locate the `<CONFLUENCE-INSTALL>/confluence/login.vm` file and make a back up copy
- Open the file. Locate the following code and comment it out.

```xml
<!-
<p>
<div class="steplabel" style="width: 150px;">
<input type="checkbox" name="os_cookie" id="os_cookie_id" value="true" tabindex="3"/>
</div>
<label for="os_cookie_id" accesskey="r">$action.getText("remember.accesskey")</label>
</p>
-->

- Save the file and restart Confluence
- Repeat the steps when you install a new version of Confluence

**Note:** The code above is already commented out.

### Disable Velocity Caching

When you are developing for Confluence, it is often useful to disable the caching of the velocity templates so that you don't have to restart the server to see velocity changes.

Perform the following modifications before starting the server, or restart it afterwards:

1. Edit your Velocity properties, which you will find in one of the following locations:
   - `./confluence/src/etc/java/velocity.properties`
   - `confluence/WEB-INF/classes/velocity.properties` for Confluence 2.5 and earlier, or
   - `confluence/WEB-INF/lib/confluence-[version].jar#velocity.properties` for Confluence 2.6 and later.
2. Set all the `.resource.loader.cache` values to `false`.
3. Set the `class.resource.loader.cache` to `false`. (If this entry does not exist, you can skip this step.)
4. Set `velocimacro.library.autoreload` to `true`. (Uncomment the line if necessary.)

Unfortunately, this does not apply to the macro library (macros.vm). Hence, a restart is essential.

### Enabling Developer Mode

Confluence's Developer Mode is a system property setting that tells Confluence to enable various debugging features that are not otherwise exposed to users. To enable Developer Mode, you should start Confluence with the following system property set:

```
-Dconfluence.devmode=true
```

If you are writing a Confluence extension and want to check if Developer Mode is active, you can call `ConfluenceActionSupport#isDevMode()` if you have an action available (`$action.devMode` in Velocity templates), or `Boolean.getBoolean(ConfluenceActionSupport.DEVMODE)` if you don't.

#### Developer Mode Features

Currently, enabling Developer Mode will activate the following features:

**Prior to Confluence 2.0**

- Developer Mode not available in these releases

**Confluence 2.0**

- The System Information page and 500 error page will contain an entry noting that Developer Mode is enabled
- The "view as HTML" button will be made available in the WYSIWYG rich-text editor

### Encrypting error messages in Sybase

Adaptive server messages


**How can I determine the context my macro is being rendered in?**
For Confluence 2.10 (remember that?), we converted the display of the Jira Issues Macro from using a static HTML table to using a table infused with jQuery goodness. Now we could add features that wouldn’t have been possible without JavaScript, like the ability to sort issues in the page without even reloading. That was pretty cool, but it also meant we had a new problem to deal with: macros can be rendered in places that can’t render JavaScript, such as in a feed reader or an email notification. In those cases, our beautifully redesigned macro would look something like a puddle of goo.

We thought about how to get around this new problem, and decided the best approach would be to make it possible for macros to find out if they are being rendered in an email or a feed, so they can display themselves appropriately. It was already possible for macros to find out if they are being rendered in a PDF document or several other contexts. In Confluence 2.10, we made it possible for macros to find out that they were being displayed in an email or feed, an addition to the previously defined contexts. Previously, macros being viewed in an email or feed reader would have just had the render type “display”, which is the default.

Now the Jira Issues Macro is able to render itself differently in display versus feed modes:

Okay, so how can you find out the current render context from within your macro? When creating a plugin that includes a macro module, you return the HTML that the macro will display from the execute() method of the macro class. One of the parameters to the execute() method, the one with type RenderContext, can be used to determine how the macro is being rendered.

Here’s a sample execute method from a macro that prints out the current render context type:

```java
public String execute(Map parameters, String body, RenderContext renderContext) {
    if (RenderContext.FEED.equals(renderContext.getOutputType()))
        return "FEED render type";
    else if (RenderContext.EMAIL.equals(renderContext.getOutputType()))
        return "EMAIL render type";
    else if (RenderContext.HTML_EXPORT.equals(renderContext.getOutputType()))
        return "HTML_EXPORT render type";
    else if (RenderContext.PREVIEW.equals(renderContext.getOutputType()))
        return "PREVIEW render type";
    else if (RenderContext.DISPLAY.equals(renderContext.getOutputType()))
        return "DISPLAY render type";
    else if (RenderContext.PDF.equals(renderContext.getOutputType()))
        return "PDF render type";
    else if (RenderContext.WORD.equals(renderContext.getOutputType()))
        return "WORD render type";
    else
        return "some other render type";
}
```

If you used this sample macro on a page you were editing (by first installing the plugin that contains it), you could visit the preview tab to see it output "PREVIEW render type". In the case of a more complex macro, you could, say, disable some UI elements when the RenderContext.PREVIEW.equals(renderContext.getOutputType()) check is true. Using these checks is exactly how the Jira Issues Macro decides whether to render itself using JavaScript or just stick with a basic HTML version.

**Related**

Event Listener Plugins

**How does RENDERMODE work?**

Speaking generally, macros will want to do one of three things with their body:

1. Pass the body through wiki->html conversion, then do something to it like stick some more HTML around it. (i.e. {panel})
2. Do something to the body, then pass it through wiki->html conversion (I don’t really have an example of this)
3. Treat the body as data, not as wiki text. (i.e. {tasklist})

getBodyRenderMode() makes the first case above really easy, because the macro renderer will convert your body from wiki text to HTML before it’s passed to your macro’s execute() method. That way your macro has ready-made HTML delivered to it, and you don’t need to do anything.

If you return RenderMode.ALL from getBodyRenderMode(), then the body is rendered the same as a Confluence page. You can, however, return different values to only have a subset of renderings applied to your macro body: RenderMode.INLINE, for example, will ignore things like paragraphs, headers or blockquotes.

So, for example, the {color} macro returns RenderMode.INLINE, since you can only really use (color) inside a paragraph.

If you are doing macros of type 2 or 3, you’ll need to return RenderMode.NO_RENDER, which means the raw body is passed into your macro with no pre-processing. You can then do whatever you want with it (including grabbing the SubRenderer component and converting it to wiki text yourself).
Here's the relevant portion of the `MacroRendererComponent`, which does all the work, if Java code is more your thing:

```java
private void processMacro(String command, Macro macro, String body,
        Map params, RenderContext context,
        StringBuffer buffer)
{
    String renderedBody = body;
    try {
        if (TextUtils.stringSet(body) && macro.getBodyRenderMode() != null
                && !macro.getBodyRenderMode().renderNothing())
        {
            renderedBody = subRenderer.render(body, context, macro.getBodyRenderMode());
        }

        String macroResult = macro.execute(params, renderedBody, context);
        if (macro.getBodyRenderMode() == null)
        {
            buffer.append(macroResult);
        } else if (macro.isInline())
        {
            buffer.append(context.getRenderedContentStore().addInline(macroResult));
        } else
        {
            buffer.append(context.addRenderedContent(macroResult));
        }
    } catch (MacroException e)
    {
        log.info("Error formatting macro: " + command + ": " + e, e);
        buffer.append(makeMacroError(context, command + ": " + e.getMessage(), body));
    }
    catch (Throwable t)
    {
        log.error("Unexpected error formatting macro: " + command, t);
        buffer.append(makeMacroError(context, "Error formatting macro: " + command + ": " + t.toString(), body));
    }
}
```

How do l... find unused spaces

This page has been moved to the Administration section, and will be removed from here at some indeterminate point in the future.

Sometimes, you want to know what is not being used. It's great to know what's getting most attention, but what about stagnant pages, or even entire spaces that are no longer active?

While viewing space activity and the Global Statistics plugin can provide hints, they still doesn’t always provide enough detail. The simple way is to go directly to the database. We recommend DbVisualizer, and have basic instructions for connecting it to HSQLDB.

The following query identifies the last date on which content was modified in each space within a single Confluence instance:

```sql
SELECT spaces.spacename, MAX(content.lastmoddate) FROM content, spaces WHERE content.spaceid = spaces.spaceid GROUP BY spaces.spacename;
```

It returns a list of spacenames, and the last date and time at which any content was added or changed.

Alternatively, this one simply identifies spaces whose content hasn't changed since a specified date:

```sql
SELECT spaces.spacename FROM content, spaces WHERE content.spaceid = spaces.spaceid GROUP BY spaces.spacename HAVING MAX(content.lastmoddate) < '2006-10-10';
```

The result is a simple list of space names.
It's also possible to present the information in a wiki page, using the SQL plugin, which can be installed via the Plugin Repository. You'll also need to define a database Resource in conf/server.xml and conf/WEB-INF/web.xml, as described here. Having done so, you can use wiki markup code like the following, replacing confluenceDS with the name of your own local datasource:

```sql
SELECT spaces.spacename AS Space, MAX(content.lastmoddate) AS LastModified
FROM content, spaces
WHERE content.spaceid = spaces.spaceid
GROUP BY Space;
```

The Chart plugin can be used in combination with the SQL plugin to give more visually attractive results.

### How do I associate my own properties with a ContentEntityObject?

**How do I associate my own properties with a ContentEntityObject?**

You will need the ContentEntityManager (see how to retrieve it). This manager allows you to store and retrieve arbitrary String values associated with a ContentEntityObject.

Properties are stored as simple key/value pairs. We recommend that anyone writing a third-party plugin use the standard Java "reverse domain name" syntax to ensure their keys are unique. Keys may be no longer than 200 characters.

```java
// Set the property
contentPropertyManager.setText(page, "com.example.myProperty", "This is the value")
// Retrieve it
String myProperty = contentPropertyManager.getText(page, "com.example.myProperty")
```

getText and setText can store strings of arbitrary length (up to the size-limit for CLOBs in your database). There is also a getString and setString which is slightly more efficient, but limited to 255 characters per value.

### How do I autowire a component?

**How do I autowire a component?**

Most of the time, you don't have to. All plugins will have their 'primary' objects (The macro in a macro plugin, the XWork actions in an XWork plugin, the RPC handler in an RPC plugin and so on...) autowired.

If you want to write an arbitrary object that is autowired, but that is not any particular plugin type itself, write a Component Plugin Module. The added advantage of this is that Confluence will then autowire other plugins with the component you have just written.

If, however, you find you need to autowire an arbitrary object with Spring components, use bucket.util.ContainerManager

```java
bucket.container.ContainerManager.autowireComponent(myObject);
```

Where myObject is the object instance that you wish to be autowired.

### How do I configure Confluence to use GMail as the mail server

To configure Confluence to use Gmail to send emails, you will need to create a JNDI mail session and then have Confluence use it as per this document.

Please see Setup a mail session in standalone version for some guidelines.

1. Move activation-1.0.2.jar and mail-1.4.1.jar from /confluence/WEB-INF/lib to <tomcat-install>/common/lib (Tomcat 5.5) or <tomcat-install>/lib (Tomcat 6).
2. Paste the following code in confluence.xml or server.xml (substitute username and password):
3. Add java:comp/env/mail/Session to your JNDI mail configuration from Administration > Mail Servers.

**Note:** You may optionally add mail.debug="true" into the <Resource> to see logs generated by JavaMail.

### How do I convert wiki text to HTML?

How do I convert wiki text to HTML?

This depends on where you want to do it:

**In a macro...**

You will need the SubRenderer (see how to retrieve it).

The SubRenderer has two render methods: one that allows you to specify a specific RenderMode for the rendered content, and another that uses the current RenderMode from the RenderContext.

If you just want the body of your macro rendered, you can have this done for you by the macro subsystem by having your macro's getBodyRenderMode method return the appropriate RenderMode.

**In some other component...**

You will need the WikiStyleRenderer (see how to retrieve a component).

The WikiStyleRenderer has a convertWikiToHtml method that takes the wiki text you wish to convert, and a RenderContext. If you are converting the text in the context of some ContentEntityObject (for example within a page or blog post), then you can call contentEntityObject.toPageContext() to retrieve its RenderContext. Otherwise pass in a new PageContext().

### How do I disable RSS Feeds?

Confluence does not have an option to disable RSS feeds from the Administration Console and there is a discussion regarding this in CONF-10755. However there is a workaround on how to disable RSS via some simple modifications that this guide will show.

To disable RSS feeds in Confluence, you would need to disable createrssfeed.action and configurerssfeed.action properties. They are defined in xwork.xml, a configuration file that is zipped in one of the Confluence dependencies library files.

In this guide, we will be modifying global.vmd and configurerssfeed.vm and place a modified xwork.xml within your Confluence installation directory. A modified version of each of the file is accessible from the links below. As ruled at the steps below, you can place them in the corresponding directories where they belong. However, before applying the patch remember to backup your original files.

- configurerssfeed.vm
- global.vmd
- xwork.xml

And then follow these steps:

- Place global.vmd in "<confluence-install>/confluence/decorators/global.vmd. This newer velocity file will remove the RSS functionalities from Confluence dashboard.
- Place the customized xwork.xml in "<confluence-install>/confluence/WEB-INF/classes/xwork.xml". This file has removed the xwork action so an rss feed can't connect (you'll notice it's commented out):

```xml
<!--
<action name="createrssfeed" class="com.atlassian.confluence.spaces.actions.CreateRssFeedAction">
<interceptor-ref name="defaultStack"/>
</action>
-->  
```
- The attached configurerssfeed.vm file contains an explanation why RSS is disabled. Place it in "<confluence-install>/confluence/dashboard/configurerssfeed.vm. You can modify the message to suit your need.
In this patch, the changes in xwork.xml above will cause entering creatorsrssfeed.action or configurersrssfeed.action into URL leading to the error page defined in configurersrssfeed.vm.

To disable the RSS Feeds link in the Advanced section of spaces, you have to unjar the confluence-x.y.z.jar (where x.y.z is the version of Confluence that you are using) which is located in confluence-install/confluence/WEB-INF/lib/confluence-x.y.z.jar. If none of this makes any sense to you, please refer to this page: Editing Files within JAR Archives

The file you are looking for is plugins/space-advanced-sections.xml.

Remove the following block from this file:

```
 Lines 76-83

<web-item key="rss" name="Rss Feeds" section="system.space.advanced/subscribesection" weight="10">
  <label key="title.rss.feeds" />
  <link>/spaces/listrssfeeds.action?key=$generalUtil.urlEncode($helper.spaceKey)</link>
  <icon height="16" width="16">
    <link>/images/icons/feed-icon-16x16.png</link>
  </icon>
</web-item>
```

Re Jar this file and replace the current confluence-x.y.z.jar file. You will have to restart confluence to see the effects.

How do I display the Confluence System Classpath?

At times, you may see an error like this:

```
java.lang.NoSuchMethodError:
org.apache.commons.fileupload.servlet.ServletFileUpload.setSizeMax
```

**Cause:** The Java classpath has another module (jar) somewhere that overrides the one shipped with Confluence.

**Solution:**

1. Please run the following to list all modules available to the class loader:

   ![http://path-to-confluence/admin/classpath.action](http://path-to-confluence/admin/classpath.action)

2. Check for and resolve duplicate jars.

How do I find Confluence Performance Tests?

Since the 2.10 release, Performance tests can be found [here](#)

How do I find Confluence Test Suite?

All our Tests are stored inside the 'source release' you can download if you have a commercial licence from atlassian main site

When you expand the 'source', you can locate the following:

- unit and integration test
  ...confluence-project/confluence/src
- acceptance test
  ...confluence-project/src/test

How Do I find enabled and disabled plugins in the Database?

**Enabled Plugins**

Plugins from the repository, once installed are stored in table PLUGINDATA. They are enabled after install.

**Disabled Plugins**

All Plugins (bundled and from the repository) that have been disabled have an entry in table BANDANA where BANDANAKEY is plugin.manager.state.Map. For Example if the pagetree macro had been installed but is currently disabled would be reflected in BANDANAVALUE
How do I find information about lost attachments?

You may like to use the findattachments.jsp which should detect missing attachments. Simply copy it to confluence/admin/findattachments.jsp and access it at <confluence_base_url>/admin/findattachments.jsp

Below is an example of the result generated by http://<confluence_base_url>/admin/findattachments.jsp

Beginning search...
Missing attachment: <path>/attachments/3477/279/1, filename: Final-OdysseyCodingConventions.doc, filetype: Word Document

As you can see in the above example, the script will report:

Location of the attachment missing

Full Name of the attachment

File type recognised:
- PDF Document
- Image
- XML File
- HTML Document
- Text File
- Word Document
- Excel Spreadsheet
- PowerPoint Presentation
- Java Source File
- Zip Archive

How do I find the logged in user?

This can be retrieved easily from the com.atlassian.confluence.user.AuthenticatedUserThreadLocal class which will give you the current logged in user as a com.atlassian.user.User object.

```java
User user = AuthenticatedUserThreadLocal.getUser();
```

Should the user not be logged in the user object will be null.

How do I get a reference to a component?

Confluence's component system is powered by Spring, but we've done a lot of nice things to make it easier for developers to get their hands on a component at any time.

**Autowired Objects**

If your object is being autowired (for example another plugin module or an XWork action), the easiest way to access a component is to add a basic Java setter method.
For example, if you need a `SpaceManager` simply add the following setter method. This setter will be called when the object is created.

```java
public void setSpaceManager(SpaceManager spaceManager) {
    this.spaceManager = spaceManager;
}
```

You can also write your own components which are automatically injected into your plugins in the same way. See `Component Plugins` for more detail.

### Non-autowired Objects

If your object is not being autowired, you may need to retrieve the component explicitly. This is done via the `ContainerManager` like so:

```java
SpaceManager spaceManager = (SpaceManager) ContainerManager.getComponent("spaceManager");
```

### How do I get hold of the HttpServletRequest?

How do I get hold of the HttpServletRequest?

```java
HttpServletRequest request = ServletActionContext.getRequest();
if (request != null) {
    // do something here
}
```

You should always assume that `ServletActionContext.getRequest()` will return null. `ServletActionContext` is only populated if the request comes in through WebWork. There are a number of circumstances in which it will not be populated, either because a web request has come in through some other path, or because there was no web request in the first place:

- AJAX requests that come in via the DWR servlet
- SOAP/XML-RPC requests
- Scheduled tasks, including the sending of email notifications

Treat `ServletActionContext` as a bonus. If it's populated you can do neat things with it, but don't rely on it.

### How do I get my macro output exported to HTML and PDF?

How do I get my macro output exported to HTML and PDF?

This is only applies to Confluence 2.7 and higher.

```java
ExportDownloadResourceManager
```

Macros such as the chart macro may produce images, which should be included in HTML and PDF exports. This is now possible if macros delegate the responsibility of storing the output to Confluence.

The `ExportDownloadResourceManager` is responsible for managing the reading and writing of macro output. Confluence uses this manager to lookup/retrieve macro output for downloads and exports. Hence, if you would like your macro to support exports, it is required that you use this manager to retrieve the correct writer to write to.
Confluence 3.0 Documentation

ExportDownlaodResourceManager
/**
* Returns a DownloadResourceReader for reading the stored output of the previous execution of a
macro.
* Typically used by HTML and PDF export, macro content downloads.
*
* @param userName the user who is viewing the macro output. Must be the same as the user who
created the macro
* output with {@link #getResourceWriter(String, String, String)}, or an
UnauthorizedDownloadResourceException
* will be thrown.
* @param resourcePath the relative URL of the resource including the application context path.
For example,
* "/confluence/download/temp/chart1756.png". It must be the same path from the {@link
DownloadResourceWriter}.
* @throws UnauthorizedDownloadResourceException if the user requesting the macro output is
different to the user
* who created it
* @throws DownloadResourceNotFoundException if a stored macro output associated with this
resource path cannot be
* found
*/
public DownloadResourceReader getResourceReader(String userName, String resourcePath, Map
parameters)
throws UnauthorizedDownloadResourceException, DownloadResourceNotFoundException
/**
* Returns a DownloadResourceWriter for storing output of a macro in a temporary location.
* This should be typically called by macros that generate output such as images and would like
their
* output to be exported correctly.
*
* @param userName the user who is creating the macro output.
* @param prefix the prefix of the macro output's name
* @param suffix the suffix of the macro output
*/
public DownloadResourceWriter getResourceWriter(String userName, String prefix, String suffix)

The following is an example of how to retrieve the output stream for which you can use to write your macro output to.
public class ExampleMacro extends BaseMacro
{
private ExportDownloadResourceManager exportDownloadResourceManager;
public void setExportDownloadResourceManager(ExportDownloadResourceManager
exportDownloadResourceManager)
{
this.exportDownloadResourceManager = exportDownloadResourceManager;
}
public String execute(Map parameters, String body, RenderContext renderContext) throws
MacroException
{
// parse parameters and generate the output/image
....
// get the current user
User user = AuthenticatedUserThreadLocal.getUser();
String userName = user == null ? "" : user.getName();
// get the resource writer
DownloadResourceWriter writer = exportDownloadResourceManager.getResourceWriter(userName,
"example", "png");
OutputStream outputStream = writer.getStreamForWriting();
try
{

// write to the output stream
.....

}
finally
{
// close the output stream
if(outputStream != null)
outputStream.close();
}

return "<img src=\"" + writer.getResourcePath() + "/>";
}

1001

}


How do I get the base URL and ContextPath of a Confluence installation?

When you are writing Confluence plugins, sometimes you need to create an absolute URL, with the full “http://...” included. To do that, you need to determine what the URL path is up to the root of the Confluence web application.

Confluence attempts to guess the correct base URL for the site during setup. You can change it in the site’s General Configuration.

How do I determine the base URL and context path?

There are two ways of doing this. If you have a more recent version of Confluence, you can get it all in one spot. Older versions will require joining two separate string values.

Recent versions of Confluence

Recent versions of Confluence give the full path you need from one location.

First you need the SettingsManager object (see how to retrieve it), then call the following method:

```java
String baseUrl = settingsManager.getGlobalSettings().getBaseUrl();
```

Older versions of Confluence

Older versions of Confluence have what you need split into two parts, the base URL and the context path.

The base URL is the URL for the root of your Confluence site. For example, the base URL for this site is http://confluence.atlassian.com. If you have installed Confluence somewhere other than the root directory of the webserver, for example http://www.example.com/confluence, then your base URL would be http://www.example.com/confluence.

First you need the BootstrapManager (see how to retrieve it) then simply call the following method:

```java
String baseUrl = bootstrapManager.getBaseUrl();
```

To complete the URL, you will need to add the context path. The context path is the path to Confluence relative to the root directory of the webserver. For example, the context path for this site is an empty string, because it is deployed at the root. The context path for a Confluence instance deployed at http://www.example.com/confluence would be /confluence.

To get it, use:

```java
String contextPath = bootstrapManager.getWebAppContextPath();
```

To get the full path, just do this:

```java
String fullPath = baseUrl + contextPath;
```

In Confluence 2.0 and earlier the method was called bootstrapManager.getDomain(). The getDomain() method was deprecated in favour of getBaseUrl() in Confluence 2.1, because the latter name better describes the information it returns.

How do I get the information about Confluence such as version number, build number, build date?

Information about Confluence, such as the version number, build number and build date, can be retrieved from the GeneralUtil object.

You can use GeneralUtils public accessors to retrieve public static variables:

- versionNumber
- buildDate
- buildNumber

In Java

```java
String versionNumber = GeneralUtil.getVersionNumber();
```
String buildNumber = GeneralUtil.getBuildNumber();

String buildDate = GeneralUtil.getBuildDateString();

or

Date buildDate = GeneralUtil.getBuildDate();

In Velocity

$generalUtil.versionNumber
$generalUtil.buildNumber
$generalUtil.buildDateString

For instance, part of the Confluence footer is generated in the footer.vm file:

(Version: $generalUtil.versionNumber Build:$generalUtil.buildNumber $generalUtil.buildDateString)

In Wiki markup

User Macros can include the Velocity markup given above. For example, create a macro called 'version' with no body and the contents:

$generalUtil.versionNumber

You can use this user macro in a page like this:

Congratulation, you're running Confluence version {version}!

How do I get the location of the confluence.home directory?

How do I get the location of the confluence.home directory?

First you need the BootstrapManager (see how to retrieve it) then simply call the following method:

String confluenceHome = bootstrapManager.getConfluenceHome();

The BootstrapManager also has a getConFiguredConfluenceHome method. This method is used during system startup to determine the location of confluence.home from first principles. There is no reason for you to call this method: getConfluenceHome should be sufficient.

How do I load a resource from a plugin?

The recommended way to get resources from the classpath in Confluence is:

InputStream in = com.atlassian.core.util.ClassLoaderUtils.getResourceAsStream(filename, this);

ClassLoaderUtils tries a couple of different classloaders, something we've occasionally found necessary in some application servers.

How do I make my attachments open in a new window or a tab?

How do I make my attachments open in a new window/tab?

You need to add a TARGET = "_blank" to the <a href> HTML tag.
The `a` element used in HTML denotes an anchor which is a hypertext link. The `HREF` attribute specifies a hypertext link to another resource, such as an HTML document or a JPEG image. The `TARGET` attribute is used with frames to specify the frame in which the link should be rendered. If no frame with such a name exists, the link is rendered in a new window unless overridden by the user. Special frame names begin with an underscore. The frame used in this document is the `_blank` which renders the link in a new, unnamed window.

For example, by using the HTML code below, clicking on the link "a new window" will open the "newwindow.html" page in a new window:

```html
<A href="newwindow.html" _TARGET="_blank">a new window</A>
```

Open attachments listed for a Space

To open the attachments listed from the `Browse Space -> Attachments` tab, in a new window, the `Attachment(s)` file under your `<Confluence-install>` directory has to be modified. Below are the listed steps:

1. Locate the following block of code in the `listattachmentsforspace.vm` file:

   ```jsp
   foreach ($attachment in $pagedAttachments)
   <tr #alternateRowColors() id="attachment_$attachment.id">
   <td width="1%" nowrap valign="top"><a
   name="$generalUtil.urlEncode($attachment.content.realTitle)-attachment-$generalUtil.urlEncode($attachment.fileName)"#parse('/pages/includes/attachment_icon.vm')
   href="$req.contextPath$attachment.downloadPathWithoutVersion" >$attachment.fileName</a></td>
   <td width="1%" nowrap valign="top">$attachment.niceFileSize</td>
   <td width="1%" nowrap valign="top"><#usernameLink($attachment.creatorName)><#if ($attachment.creatorName!=$attachment.lastModifierName) ($action.getText('last.modified.by')#usernameLink($attachment.lastModifierName)) #end</td>
   <td width="1%" nowrap valign="top">$dateFormatter.format($attachment.lastModificationDate)</td>
   <td>#contentLink2 ($attachment.getContent() true false)</td>
   </tr>
   #end
   ```

2. In the line below:

   ```jsp
   <td width="1%" nowrap valign="top"><a
   name="$generalUtil.urlEncode($generalUtil.urlEncode($page.title))-attachment-$generalUtil.urlEncode($generalUtil.urlEncode($attachment.fileName))"#parse('/pages/includes/attachment_icon.vm')
   href="$generalUtil.htmlEncode($generalUtil.htmlEncode("${req.contextPath}${attachment.downloadPathWithoutVersion}")TARGET = "_blank")$attachment.fileName</a></td>
   ```

   add the parameter `TARGET = "_blank"` to the `<a href>` HTML tag, which will cause the URL specified in the `href` parameter to open in a new window or a new tag depending upon the option set in the browser. So the line above will be modified to:

   ```jsp
   <td width="1%" nowrap valign="top"><a
   name="$generalUtil.urlEncode($generalUtil.urlEncode($page.title))-attachment-$generalUtil.urlEncode($generalUtil.urlEncode($attachment.fileName))"#parse('/pages/includes/attachment_icon.vm')
   href="$req.contextPath$attachment.downloadPathWithoutVersion" TARGET = "_blank">$attachment.fileName</a></td>
   ```

Open attachments listed for a Page

To open the page attachments listed from the Page's `Attachment(s)` tab, in a new window, the `Attachment(s)` file under your `<Confluence-install>` directory has to be modified. Below are the listed steps:

1. Locate the following block of code in the `viewattachments.vm` file:

   ```jsp
   <td nowrap valign="top"><a
   name="$generalUtil.htmlEncode($generalUtil.htmlEncode($generalUtil.htmlEncode($page.title))-attachment-$generalUtil.htmlEncode('/pages/includes/attachment_icon.vm'))
   href="$generalUtil.htmlEncode($generalUtil.htmlEncode($page.title))-attachment-$generalUtil.htmlEncode($generalUtil.htmlEncode($attachment.downloadPathWithoutVersion))" TARGET = "_blank">$generalUtil.htmlEncode($attachment.fileName)</a></td>
   ```

2. In the line below:
1. add the parameter TARGET = "_blank" to the &lt;a&gt; HTML tag, which will cause the URL specified in the href parameter to open in a new window or a new tag depending upon the option set in the browser. So the line above will be modified to:

   &lt;a href="${req.contextPath}${attachment.downloadPathWithoutVersion}" TARGET = "_blank"&gt;$generalUtil.htmlEncode($attachment.fileName)&lt;/a&gt;

### How do I prevent my rendered wiki text from being surrounded by paragraph tags?

**How do I prevent my rendered wiki text from being surrounded by &lt;p&gt; tags?**

When wiki text is converted to HTML, the level of conversion is determined by the `RenderMode` set within the `RenderContext`. Understanding `RenderMode` is quite important, so you should familiarise yourself with the documentation linked above.

There are two render modes that are useful if you want to avoid the output being placed inside paragraph tags:

- **RenderMode.INLINE** will suppress the rendering of all block-level HTML elements, including paragraphs, blockquotes, tables and lists. Inline elements such as text decorations, links and images will still be rendered.
- **RenderMode.suppress(RenderMode.F_FIRST_PARA)** will render block-level elements as usual, but if the first such element is a paragraph, no paragraph tags will be drawn around it. This is useful if you're placing your output inside a &lt;div&gt;.

If you are writing a macro, you will also need to return `true` from your macro's `isInline` method.

### How do I tell if a user has permission to...?

**How do I tell if a user has permission to...?**

When you’re writing a Confluence plugin, it’s important to check that the user has permission to do the operations your plugin is performing. Confluence does not enforce security for you, it’s up to your code to perform these checks.

There are two places you might want to check permissions:

- **In Java Code**
- **In Velocity Templates**

#### In Java Code:

You will need:

1. the `User` object of the user whose permissions you want to check ([How do I find the logged in user?](#how-do-i-find-the-logged-in-user))
2. the `permissionManager` component from Spring ([How do I get a reference to a component?](#how-do-i-get-a-reference-to-a-component))

The `PermissionManager` has quite a few methods ([Javadoc](#)), but the most important are:
Simple Permissions

Generally you're going to be asking the question: "Does some user have permission to do something to some target?" For example: "Does BOB have permission to VIEW this PAGE?", "Does JANE have permission to REMOVE this ATTACHMENT?" These questions map to the hasPermission() method above.

The various values of "something" are all constants of the Permission class listed in this Javadoc. At the time this document was written, the permission 'verbs' are:

- Permission.VIEW
- Permission.EDIT
- Permission.EXPORT
- Permission.REMOVE
- Permission.SET_PERMISSIONS
- Permission.ADMINISTER

So to check if your user has permission to edit a particular page, the call is:

```java
permissionManager.hasPermission(myUser, Permission.EDIT, thePage)
```

For global permissions, the 'target object' is considered to be the Confluence application itself. There is a special target, PermissionManager.TARGET_APPLICATION that represents the application as a whole. So to check if someone is a global administrator, call:

```java
permissionManager.hasPermission(myUser, Permission.ADMINISTER,
PermissionManager.TARGET_APPLICATION)
```

Create Permissions

Checking if someone has the ability to create an object (page, blogpost, space, etc) is a little more complicated. Every object is created inside some other object. Comments and Attachments are created inside Pages or BlogPosts. Pages are created inside Spaces. And Spaces are created inside TARGET_APPLICATION.

So to check if someone can create something, the question is: "Does this user have permission to create this KIND OF OBJECT, in this CONTAINER?" In Java, kinds of objects are represented by their class, so to see if a user can create a comment inside a particular page, you'd call:

```java
permissionManager.hasCreatePermission(myUser, containingPage, Comment.class)
```
And to check if the user has permission to create spaces globally:

```java
permissionManager.asCreatePermission(myUser, PermissionManager.TARGET_APPLICATION, Space.class)
```

In Velocity Templates

While all of the above is very powerful, it's a bit complicated to deal with in a Velocity file. There is an object in the default velocity context called $permissionHelper which has a bunch of useful methods on it. All the methods do pretty much what you'd expect them to do, so I'll just link to the Javadoc:

http://www.atlassian.com/software/confluence/docs/api/latest/com/atlassian/confluence/security/PermissionHelper.html

And give a simple example:

```velocity
#if ($permissionHelper.canEdit($remoteUser, $action.page))
<b>You have Edit Permission for this Page</b>
#end
```

How do I use HTTPS for login only?

Instructions for enforcing the use of HTTPS for the login page, but falling back to HTTP for all other pages:

Once you have SSL working on tomcat, you need to make use of the urrewrite plugin that's included by default with Confluence. First, edit the filter-mapping entry in web.xml for urrewrite from this:

```xml
<filter-mapping>
  <filter-name>UrlRewriteFilter</filter-name>
  <url-pattern>/s/*</url-pattern>
</filter-mapping>
```

to this:

```xml
<filter-mapping>
  <filter-name>UrlRewriteFilter</filter-name>
  <url-pattern>/*</url-pattern>
</filter-mapping>
```

The next step is to edit urrewrite.xml to read like this, changing the hostname and port number to suit your own installation:

```xml
<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE urrewrite PUBLIC "-//tuckey.org//DTD Ur_rewrite 2.6//EN" "http://tuckey.org/res/dtds/ur_rewrite2.6.dtd">
<urrewrite>
  <rule>
    <from>/s/(.*)/_/([^?]*).*/</from>
    <run class="com.atlassian.plugin.servlet.ResourceDownloadUtils" method="addCachingHeaders" />
    <to type="forward">/$2</to>
  </rule>

  <rule>
    <from>/login.action</from>
    <condition type="scheme" operator="notequal">https</condition>
    <to type="redirect">http://localhost:8443/login.action</to>
  </rule>

  <rule>
    <from>/(.*)</from>
    <condition type="scheme" operator="equal">https</condition>
    <condition type="request-uri" operator="notequal">/login.action.*</condition>
    <condition type="request-uri" operator="notequal">/s/.*</condition>
    <to type="redirect">http://localhost:8080/$1</to>
  </rule>
</urrewrite>
```

HTTP Response Code Definitions

**HTTP Response Codes**

Below is a list of HTTP Response codes and their meaning.
This information was obtained from:
HTTP Response Code Definitions

<table>
<thead>
<tr>
<th>Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Continue</td>
</tr>
<tr>
<td>101</td>
<td>Switching Protocols</td>
</tr>
<tr>
<td>200</td>
<td>OK</td>
</tr>
<tr>
<td>201</td>
<td>Created</td>
</tr>
<tr>
<td>202</td>
<td>Accepted</td>
</tr>
<tr>
<td>203</td>
<td>Non-Authoritative Information</td>
</tr>
<tr>
<td>204</td>
<td>No Content</td>
</tr>
<tr>
<td>205</td>
<td>Reset Content</td>
</tr>
<tr>
<td>206</td>
<td>Partial Content</td>
</tr>
<tr>
<td>300</td>
<td>Multiple Choices</td>
</tr>
<tr>
<td>301</td>
<td>Moved Permanently</td>
</tr>
<tr>
<td>302</td>
<td>Found</td>
</tr>
<tr>
<td>303</td>
<td>See Other</td>
</tr>
<tr>
<td>304</td>
<td>Not Modified</td>
</tr>
<tr>
<td>305</td>
<td>Use Proxy</td>
</tr>
<tr>
<td>307</td>
<td>Temporary Redirect</td>
</tr>
<tr>
<td>400</td>
<td>Bad Request</td>
</tr>
<tr>
<td>401</td>
<td>Unauthorized</td>
</tr>
<tr>
<td>402</td>
<td>Payment Required</td>
</tr>
<tr>
<td>403</td>
<td>Forbidden</td>
</tr>
<tr>
<td>404</td>
<td>Not Found</td>
</tr>
<tr>
<td>405</td>
<td>Method Not Allowed</td>
</tr>
<tr>
<td>406</td>
<td>Not Acceptable</td>
</tr>
<tr>
<td>407</td>
<td>Proxy Authentication Required</td>
</tr>
<tr>
<td>408</td>
<td>Request Time-out</td>
</tr>
<tr>
<td>409</td>
<td>Conflict</td>
</tr>
<tr>
<td>410</td>
<td>Gone</td>
</tr>
<tr>
<td>411</td>
<td>Length Required</td>
</tr>
<tr>
<td>412</td>
<td>Precondition Failed</td>
</tr>
<tr>
<td>413</td>
<td>Request Entity Too Large</td>
</tr>
<tr>
<td>414</td>
<td>Request-URI Too Large</td>
</tr>
<tr>
<td>415</td>
<td>Unsupported Media Type</td>
</tr>
<tr>
<td>416</td>
<td>Requested range not satisfiable</td>
</tr>
<tr>
<td>417</td>
<td>Expectation Failed</td>
</tr>
<tr>
<td>500</td>
<td>Internal Server Error</td>
</tr>
<tr>
<td>501</td>
<td>Not Implemented</td>
</tr>
<tr>
<td>502</td>
<td>Bad Gateway</td>
</tr>
<tr>
<td>503</td>
<td>Service Unavailable</td>
</tr>
<tr>
<td>504</td>
<td>Gateway Time-out</td>
</tr>
</tbody>
</table>
HTTP Version not supported

**HTTP Headers**

It would be useful to obtain information on HTTP response headers. If you are using Mozilla Firefox, you can download an 'add-ons' (extension) called LiveHTTPHeaders which will allow you to capture this information. If you are using Internet Explorer, you can use DebugBar instead.

**Live HTTP Headers Installation Instructions**

For Live HTTP Headers, please do the following:

1. Download and install the Plugin
2. Restart Firefox
3. Go to Tools in the menu bar and click on Live HTTP Headers. This will trigger the functionality.

Now try accessing the Confluence main page and all HTTP request headers, cookies descriptions (such as the seraph authentication 'seraph.os.cookie') will be logged in the pop-up window. Please save this information in a text file, use the 'Save All' option.

**DebugBar Installation Instructions**

Run the downloaded installation file. After installing the DebugBar, the toolbar should automatically display on the next IE startup. If not, you might need to show the toolbar in IE by clicking on View > Explorer Bar then select DebugBar

**I am trying to compile a plugin, but get an error about the target release**

When compiling plugins and using version 1.5 of the JDK, the following error may appear:

```
javac: target release 1.3 conflicts with default source release 1.5
```

**SOLUTION**

The solution is essentially to tell your compiler to target Java 1.3. How to do this will differ depending on what compiler you are using, but generally, something like this will work:

```
javac -target 1.3 <other options here>
```

If you are using Maven to build your project, try adding the following to your `project.properties` or `build.properties` file:

```
# Set the javac target to 1.3
maven.compile.target=1.3
maven.compile.source=1.3
```

If the solutions above do not resolve this issue and you are using an older version of Confluence, try the following approach:

Open the `src/etc/plugins/build.xml` file and in the line that looks similar to the following one, change its `target` parameter from "1.3" to "1.5":

```
<javac destdir="${library}/classes"    target="1.3" debug="${debug}" deprecation="false" optimize="false" failonerror="true">
```

**RELATED TOPICS**

Confluence Plugin Guide
[FAQ Home]

**What’s the easiest way to render a velocity template from Java code?**

Use VelocityUtils. You will need to provide VelocityUtils with the name of the template you want to render, and a map of parameters that will be made available within the template as $variables in velocity.
Confluence has a default set of objects for Confluence velocity templates. These are required for most Confluence velocity macros to work properly. To obtain this context, you should call `MacroUtils.defaultVelocityContext()`.

```java
// Create the Velocity Context
Map context = MacroUtils.defaultVelocityContext();
context.put("myCustomVar", customVar);
context.put("otherCustomVar", otherCustomVar);

// Render the Template
String result = VelocityUtils.getRenderedTemplate("/com/myplugin/templates/macro.vm", context);
```

**RELATED TOPICS**

Rendering Velocity templates in a macro

WoW Macro explanation

Macro Plugins

**What class should my macro extend?**

**X** What class should my macro extend?

It should extend `com.atlassian.renderer.v2.macro.BaseMacro`, **not** `com.atlassian.renderer.macro.BaseMacro`.

**What class should my XWork action plugin extend?**

**X** What class should my XWork action plugin extend?

WebWork actions must implement `com.opensymphony.xwork.Action`. However, we recommend you make your action extend `ConfluenceActionSupport`, which provides a number of helper methods and components that are useful when writing an Action that works within Confluence.

Other action base-classes can be found within Confluence, but we recommend you don't use them - the hierarchy of action classes in Confluence is over-complicated, and likely to be simplified in the future in a way that will break your plugins.

**What is Bandana? One form of Confluence Persistence**

Bandana is Atlassian's hierarchical data storage mechanism, it breaks objects into XML and stores them, to be retrieved later... uses xstream and a little hierarchical magic under the covers and has another strange Atlassian codename. It is one way to persist data inside your plugin. It is good for global config types of data.

It uses XStream to serialize Java strings (and objects?) to and from XML.

Examples:

The BandanaManager can be acquired via Confluence's (Spring's) dependency injection.

Data in this case is written to: `confluence-data-dir/config/confluence-global.bandana.xml`

Writing data:

```java
bandanaManager.setValue(new ConfluenceBandanaContext(), GmapsManager.GOOGLE_MAPS_API_KEY, updateApiKey);
```

Retrieving data:

```java
public String getGoogleApiKey()
{
    return (String) bandanaManager.getValue(new ConfluenceBandanaContext(),
        GmapsManager.GOOGLE_MAPS_API_KEY);
}
```

See also: Persistence in Confluence

**What is the best way to load a class or resource from a plugin?**

**X** What is the best way to load a resource from the classpath?

Because of the different ways that application servers deal with class-loading, just calling `this.getClass().getResourceAsStream()`
might not work the same everywhere Confluence is deployed. To help, we have a utility method that checks the various classloaders in a predictable order:

```java
InputStream in = com.atlassian.core.util.ClassLoaderUtils.getResourceAsStream(filename, this)
```

**Inside Plugins**

Because plugins may be dynamically loaded, each plugin may have its own classloader, separate from the main Confluence application. This makes loading resources like properties files from inside a plugin JAR a little tricky.

If the class from which you are loading the resource is in the same jar as the resource file itself (i.e. it's all part of the same plugin), you can use `ClassLoaderUtils` as above, and everything will work fine.

However, if you are trying to load the file from a different plugin, or from the main application code, you'll need an instance of the `pluginManager` from spring:

```java
InputStream in = pluginManager.getDynamicResourceAsStream(filename)
```

(That said, you must now ask yourself why you're loading an arbitrary resource from some other plugin? It seems like a really bad idea to me. If the plugin wants to export that resource to the rest of the application, it should provide some way of getting at it itself.)

**Within a Confluence macro, how do I retrieve the current ContentEntityObject?**

Within a Confluence macro, how do I retrieve the current ContentEntityObject?

You can retrieve the current `ContentEntityObject` (i.e. the content object this macro is a part of), as follows:

```java
public String execute(Map parameters, String body, RenderContext renderContext) throws MacroException {
    // retrieve a reference to the body object this macro is in
    if (!(renderContext instanceof PageContext)) {
        throw new MacroException("This macro can only be used in a page");
    }
    ContentEntityObject contentObject = ((PageContext)renderContext).getEntity();
    ...
```

Note that this method might return null if there is no current content object (for example if you are previewing a page that has not been added yet, or if a remote user is rendering a fragment of notation).

**Confluence Developer Forum**

The Confluence Developer Forum is a place for the discussion of extending and customising Confluence. There are two ways to join the discussion:

- Read the web-based forum
- Join the mailing-list

**Forum Guidelines**

The developer forum is set up for the discussion of:

- Confluence development: Plugins, themes or Confluence source customisation
- Confluence’s internal and remote APIs
- Automation of tasks in Confluence
- Announcement of new Confluence developer releases
- Announcement of new plugin releases
- Requests for plugins or customisation services
- Complaints that Atlassian have broken the plugin APIs again

The following are discouraged:

- Requests for support setting up or running Confluence should be directed to [http://support.atlassian.com](http://support.atlassian.com)
- Bug-reports should be submitted to [http://jira.atlassian.com](http://jira.atlassian.com) (If the bug is specific to plugin development or Confluence’s internal APIs, you can discuss it on the developer forum, but **PLEASE** submit a bug as well!)  
- Questions about using, running or administering Confluence should be directed to [The general Confluence forum](http://jira.atlassian.com)
- It’s OK to respond to requests for professional services on the forum, or to plug your business in plugin announcements or your signature, but please don’t just post advertisements.

**The Developer FAQ**

101
Some questions come up on the forum a lot. Make sure you've checked the Confluence Developer FAQ first.

About the Participants

When taking part in the forum, please keep in mind that Confluence licenses do not include a guaranteed level of developer support. The Confluence development team follows and contributes to the forum because it's important to us to have a healthy ecosystem of third-party developers, and because we love seeing the cool stuff that our customers and partners come up with. That said, we can't respond to every request, and developers are also expected to help themselves by reading the available documentation, the API, and occasionally even looking at the Confluence source-code.

Also keep in mind that a lot of the people on the list don't work for Atlassian at all, and are answering questions because they're nice people.

Confluence Plugin Guide

Looking for existing plugins? See the existing plugins and extensions written by the community in the Confluence Extensions space.

Confluence's plugin system allows users and developers to customise and extend Confluence.

A plugin is a bundle of code, resources and a special configuration file that can be dropped into a Confluence server to add new functionality, or change the behaviour of existing features.

- **Administrators** can drop plugins into their Confluence server to add new functionality to the system.
- **Developers** can write plugins for their own Confluence server, or share plugins with other Confluence users.

Some parts of Confluence are implemented entirely as plugins — for example, all macros in Confluence 1.3 and later are written as plugins, even those included with the system.

Where are plugins stored

<table>
<thead>
<tr>
<th>Category</th>
<th>Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manually installed</td>
<td>database</td>
</tr>
<tr>
<td>Installed via repository</td>
<td>database</td>
</tr>
<tr>
<td>Bundled plugins</td>
<td>conf-home</td>
</tr>
<tr>
<td>System plugins</td>
<td>WEB-INF/lib</td>
</tr>
</tbody>
</table>

For example, the System plugins LeftNav theme plugin or the Clickr plugin will store data in WEB-INF/lib. Similarly for advanced-formatting macros.

Where are plugins run-time data stored

There is no distinct requirement where actual plugin's run-time data is stored. It is depended on the particular implementation of each plugin. The most common storage location would be: database, BANDANA, conf-home or other.

Plugins and Plugin Modules

Every plugin is made up of one or more plugin modules. A single plugin may do many things, while a plugin module represents a single function of the plugin.

For example, a theme plugin will consist of a colour-scheme module to define the theme's colours, a number of layout modules to define the site's page layouts, and a theme module to combine those pieces together into a single theme.

Some plugins, such as the macro packs that come with Confluence, are just a collection of unrelated modules that just happen to be packaged together. Other plugins, such as theme plugins, have modules that work together to provide some orchestrated functionality.

Contents of the Confluence Plugin Guide

- Writing Confluence Plugins
  - Enabling TinyMCE Plugins
  - Converting a Plugin to Plugin Framework 2
  - Creating your Plugin Descriptor
  - Confluence Plugin Module Types
  - Accessing Confluence Components From Plugin Modules
  - Including Javascript and CSS resources
  - Adding Plugin and Module Resources
  - Adding a Configuration UI for your Plugin
  - Ensuring Standard Page Decoration in your Plugin UI
  - Making your Plugin Modules State Aware
  - Confluence Plugin Tutorials
Writing Confluence Plugins

Looking for plugins? See the existing plugins and extensions written by the community in the Confluence Extensions space.

Confluence plugins provide a standard mechanism for extending Confluence. By adding plugins to Confluence you will be able to customise the site's look and feel, add new macros, event listeners and periodic tasks, and even introduce whole new features.

You can read the Confluence Plugin Guide for an overview of what plugins are. This document introduces Confluence plugins to developers who may want to write their own.

On this page:

- Anatomy of a Plugin
- Creating your Plugin Descriptor
- Creating a Basic Macro Plugin Skeleton
- Confluence Plugin Module Types
- Java Classes and Accessing Confluence Components
- Adding Plugin and Module Resources
- Adding a Configuration UI for your Plugin
- Ensuring Standard Page Decoration

Anatomy of a Plugin

A plugin is a single jar file that can be uploaded into Confluence. It consists of

- A plugin descriptor
- (Optional) Java classes
- (Optional) Resources

Plugins are composed of a series of modules, each of which defines a point at which the plugin interfaces with Confluence.

Creating your Plugin Descriptor

The plugin descriptor is a single XML file named atlassian-plugin.xml that tells the application all about the plugin and the modules contained within it. See Creating your Plugin Descriptor.

Creating a Basic Macro Plugin Skeleton

While even the most basic plugin involves quite a few directories and config files, creating a plugin skeleton is pretty easy and straightforward. We have prepared a Maven 2 template which does almost all the work for you. Please refer to the documentation in the Atlassian Developer Network for instructions on setting up your development environment and creating the most basic Confluence macro plugin. You can use its basic code skeleton to evolve your plugin into one of the categories described below.

Confluence Plugin Module Types

There are plenty of plugin types in Confluence. If you are new to plugin development in Confluence, we strongly suggest you start by writing a simple Macro Plugin. Macros are easy to write and give you visual feedback at once. Since the default plugin created by the Maven 2 template is a macro too, you can get started in almost no time at all.

Once you know your way around the Confluence API, you can evolve your plugin into something else, or of course create a new plugin and start from scratch. Each of the following plugin type descriptions assumes you have been able to create the basic plugin skeleton mentioned in the above paragraph.

See Confluence Plugin Module Types.

Java Classes and Accessing Confluence Components

When you upload a plugin JAR file into Confluence, all the Java classes contained within the JAR are available for your plugin to access. You can include as many classes as you like, and have them interact with each other. Because Confluence and plugins can export components for your plugin to use, it's important that you follow the Java package naming conventions to ensure your plugin's classes do not conflict with Confluence classes or with other plugins.

If you are writing a Java implementation of a plugin module, you will be interested in Accessing Confluence Components From Plugin Modules.
Adding Plugin and Module Resources

A 'resource' is a non-Java file that a plugin may need in order to operate. See Adding Plugin and Module Resources.

The simplest kind of resource, supported with all plugin module types, is of type download, which makes a resource available for download from the Confluence server at a particular URL. See Adding Plugin and Module Resources.

Adding a Configuration UI for your Plugin

A plugin for an Atlassian application can specify internal links within the application, to allow the user to configure options for the plugin. This is useful where your plugin requires configuration or user-specific settings to work. See Adding a Configuration UI for your Plugin.

Ensuring Standard Page Decoration

If you're writing a plugin that is intended for more than one Atlassian application, you can use the standard page decorators supported by Confluence. This allows your plugin to generate new web pages with consistent decoration by the host application across the Atlassian products. See Ensuring Standard Page Decoration in your Plugin UI.

RELATED TOPICS

- Enabling TinyMCE Plugins
- Converting a Plugin to Plugin Framework 2
- Creating your Plugin Descriptor
- Confluence Plugin Module Types
- Accessing Confluence Components From Plugin Modules
- Including Javascript and CSS resources
- Adding Plugin and Module Resources
- Adding a Configuration UI for your Plugin
- Ensuring Standard Page Decoration in your Plugin UI
- Making your Plugin Modules State Aware
- Confluence Plugin Tutorials
- Form Token Handling

Enabling TinyMCE Plugins

This documentation refers to a feature in the Confluence 3.1 release cycle. It will not work in Confluence 3.0 or before. Please check out our Milestone release notes to learn more about our milestone process for Confluence 3.1

TinyMCE is the wysiwyg editor we use in Confluence. You can now customise and enable TinyMCE plugins in Confluence by converting it as an Atlassian plugin. You simply need to define a plugin descriptor and provide a small snippet of javascript to configure your plugin.

Please note that this does not mean that all TinyMCE plugins are guaranteed to work in Confluence. Confluence is using a customised version of TinyMCE, so the plugins may not work 'out of the box' and could require some changes.

Defining the TinyMCE Plugin Resources

You will need to define the TinyMCE plugin resources (e.g. editor_plugin.js) in a web resource module with an added context of 'wysiwyg-editor'. Below is an example plugin descriptor for the TinyMCE Search & Replace plugin.

```xml
<atlassian-plugin name='TinyMCE Search Replace Plugin' key='tinymce.searchreplace.plugin'>
  ...
  <resource name="searchreplace/" type="download" location="searchreplace/"/>
  ...
  <web-resource name='TinyMCE Search Replace Web Resources' key='tinymce-searchreplace-resources'>
    <resource name="searchreplace.js" type="download" location="searchreplace/editor_plugin.js"/>
    <resource name="searchreplace-adapter.js" type="download" location="searchreplace/confluence-adapter.js"/>
    <context>wysiwyg-editor</context>
  </web-resource>
</atlassian-plugin>
```

Configuring TinyMCE Plugin Settings

To enable the TinyMCE plugin, you will need to configure the settings object that is typically passed to TinyMCE's init() method. To do this, simply add some javascript to register your configuration logic with AJS.Editor.Adapter.addTinyMcePluginInit. The following code enables the search/replace plugin and adds the search and replace buttons to the second row of the toolbar.
Confluence 3.0 Documentation

Converting a Plugin to Plugin Framework 2

Confluence 2.10 and later includes a new plugin framework is based on OSGi and Spring Dynamic Modules. The new plugin framework has all the advantages of OSGi, plus it will be included into all Atlassian products. This means that writing plugins for different products would be more consistent and porting the same plugin to different Atlassian applications will require fewer changes than it did in the past. For the full documentation of the Atlassian Plugin Framework 2, refer to the Plugin Framework Documentation.

Plugins that were written for the old framework will continue to work, but to leverage the new functionality you will need to convert your plugin to the new framework. This page describes how to migrate an existing plugin to the new Confluence plugin framework.

1. Set your plugin 'plugins-version' flag to version 2
2. Check that packages used by your plugin are available to OSGi plugins
   - 2.1 Rely on automatic package imports
   - 2.2 Customise package imports and exports with a bundle manifest
3. Check that components used by your plugin are available to OSGi plugins
   - 3.1 Specify qualifiers on ambiguous Spring dependencies
   - 3.2 Expose your plugin components to other plugins
   - 3.3 Import components exposed by other plugins
4. Advanced configuration with Spring configuration files
5. Confluence API limitations

RELATED TOPICS

1. Set your plugin 'plugins-version' flag to version 2

As described in the documentation there are two types of plugins in the Atlassian Plugin Framework 2:

- **Version 1** — These may be static (deployed in WEB-INF/lib) or dynamic (via the web UI, only in Confluence) and should work the same as they did in version 1 of the Atlassian Plugin Framework. The capabilities and features available to version 1 plugins vary significantly across products.
- **Version 2** — These plugins are dynamically deployed on an internal OSGi container to provide a consistent set of OSGi features and behaviours, regardless of the application the plugin is running on. Version 2 plugins have to be specifically declared as such, using the `plugins-version="2"` attribute in `atlassian-plugin.xml`.

So the first step of migration is to make your plugin a Version 2 plugin by setting `plugins-version="2"` attribute in `atlassian-plugin.xml`:

```
<atlassian-plugin name="plugin name" key="plugin key" enabled="true" plugins-version="2">
```

For the remainder of this document, Version 2 plugin and OSGi plugin should be considered synonymous.

2. Check that packages used by your plugin are available to OSGi plugins

OSGi plugins — plugins with 'plugins-version' set to 2 — are subject to certain restrictions. In particular, an OSGi plugin can access only those external classes that Confluence (or other plugins) explicitly expose. This means that you can no longer assume that all classes on the Confluence classpath will be accessible to your plugin.

Refer to the list of packages that Confluence 2.10 exposes, and ensure that all classes used by your plugin are covered by this list. The list of packages should be sufficient to access all the functionality of Confluence from within your plugin.

However, many of the third party packages that ship with Confluence are not exported. If your plugin needs any of these libraries, you will need to package them within the plugin. This has been done to provide better compatibility for plugins if Confluence upgrades those libraries in the future (eg. API incompatibilities that require code changes). The easiest way to package dependencies with your plugin is to use the Maven 2 Plugin Development Kit.

It is very important to ensure that plugin code does not depend on packages that are not exposed, as the problem will only manifest itself during runtime.

2.1 Rely on automatic package imports

OSGi plugins have their required packages imported transparently. You do not need to do anything to have required packages imported, but it may help to understand how this works.

Normally, an OSGi bundle needs to explicitly import all packages it needs. To work around this requirement, the plugin framework generates the list of required packages by scanning the class files inside your plugin and determining which packages they use. Once this list of

```
AJSEditor.Adapter.addTinyMcePluginInit(function(settings) {
    settings.plugins += ",searchreplace";
    settings.theme_advanced_buttons2 += ",search,replace";
});
```
packages is determined, the plugin system generates an OSGi manifest and inserts it into your plugin prior to loading it into the OSGi container. For more information, refer to OSGi Basics and how OSGI bundles are generated.

### 2.2 Customise package imports and exports with a bundle manifest

If you want to have a full control over what packages are imported by your plugin you can package the plugin as an OSGi bundle. To do this, you need to specify all necessary entries in a Manifest file inside your plugin JAR file. Using the Bundle Plugin for Maven makes the process of generating a valid OSGi manifest much simpler.

You might also want to configure a bundle manifest yourself if you want expose a set of packages as being exported from your plugin.

### 3. Check that components used by your plugin are available to OSGi plugins

The other important restriction for OSGi plugins is that they are only allowed to access those Spring components that are explicitly exposed by Confluence or other plugins. You can find the list of all components that are available to OSGi plugins under http://<baseURL>/admin/pluginexports.action. In this list, each Spring component is listed against the interfaces that it provides. In OSGi, every component must specify the interfaces it provides.

As with the exposed packages, the list of components attempts to cover all Confluence functionality but not to expose all the internals of the application. If your plugin uses the beans that are not exposed you should be able to find an exposed bean that provides the same functionality. As with the packages, this list is intentionally limited to try to improve plugin compatibility across releases of Confluence.

It is very important to ensure that plugin code does not depend on beans that are not exposed, as the problem will only manifest itself during runtime. The easiest way to ensure that there are no dependencies on beans which are not exposed is to use constructor injection. Using constructor injection will ensure that the plugin fails during the loading if any of the dependencies are not satisfied.

> As OSGi plugin components live in their own Spring context separate from Confluence's Spring container, you cannot use `ContainerManager.getComponent()` to retrieve your own plugin components (see PLUG-280)

#### 3.1 Specify qualifiers on ambiguous Spring dependencies

In some cases, Confluence exposes more than one bean under the same interface. When this happens, Spring can't determine exactly which bean to use to satisfy a dependency on that interface. For example, there are two exposed beans that implement the PluginController interface. Spring will fail to inject the right dependency unless you provide a Spring `@Qualifier` annotation.

```java
// Confluence has two beans that implement PluginController, so we add a qualifier to specify
// which one we want
public void setPluginController(@Qualifier("pluginController") PluginController pluginController) {
    this.pluginController = pluginController;
}
```

#### 3.2 Expose your plugin components to other plugins

In order to make a component in your plugin available to other plugins you can simply add the `public="true"` attribute to the component in your plugin descriptor file. You will need to specify one or more interfaces under which this bean will be exposed.

```xml
<component key="pluginScheduler" class="com.atlassian.sal.core.scheduling.TimerPluginScheduler"
    public="true">
    <interface>com.atlassian.sal.api.scheduling.PluginScheduler</interface>
</component>
```

#### 3.3 Import components exposed by other plugins

Components that are exposed by other plugins are treated a little differently to beans that are exposed by Confluence itself. Your plugin needs to specifically import components which come from other plugins. To do this, include a `<component-import>` tag inside `atlassian-plugin.xml` file.

```xml
<component-import key="loc" interface="com.atlassian.sal.api.license.LicenseHandler" />
```

You will also need to ensure that the component `class` is imported, which usually happens transparently.

### 4. Advanced configuration with Spring configuration files

The new plugin framework provides the ability to create plugin components using complete Spring configuration files. If you provide Spring Dynamic Modules (Spring DM) configuration files in META-INF/spring/, these will be loaded into your plugin OSGi bundle by the Spring DM loader. Using this option for configuration provides you with a lot of flexibility about how your plugin components are created and managed.
To include a Spring configuration file, ensure it is included in the META-INF/spring/ directory inside your plugin JAR file. All files matching *.xml inside this directory will be loaded as Spring configuration files when your plugin is loaded. For more details on Spring configuration, see the Spring documentation.

5. Confluence API limitations

- As mentioned above, you cannot use `ContainerManager.getComponent()` to retrieve your own plugin components. Instead, you should use dependency injection.
- `VelocityUtil.getRenderedTemplate()` uses Confluence’s Class loader. Therefore, you cannot use it to access your plugin's templates. See CONF-14459 for a workaround.

RELATED TOPICS

Writing Confluence Plugins

- Enabling TinyMCE Plugins
- Converting a Plugin to Plugin Framework 2
- Creating your Plugin Descriptor
- Confluence Plugin Module Types
- Accessing Confluence Components From Plugin Modules
- Including Javascript and CSS resources
- Adding Plugin and Module Resources
- Adding a Configuration UI for your Plugin
- Ensuring Standard Page Decoration in your Plugin UI
- Making your Plugin Modules State Aware
- Confluence Plugin Tutorials
- Form Token Handling

Packages available to OSGi plugins

Below are the Java packages exposed by Confluence 2.10. All of them, along with their sub-packages, are available to OSGi plugins running in the Atlassian Plugin Framework 2.2.

- com.atlassian*
- com.sun*
- com.thoughtworks.xstream*
- bucket*
- net.sf.cglib*
- net.sf.hibernate*
- com.opensymphony.*
- org.apache.*
- org.xml.*
- javax.*
- org.w3c.*
- org.dom4j.*
- org.quartz.*
- org.bouncycastle*

Inside the application, this list is configured as a parameter to the packageScanningConfiguration component in the pluginServiceContext.xml file. The XML file is in the services folder within the confluence/WEB-INF/lib/confluence-2.10.x.jar.

RELATED TOPICS

Converting a Plugin to Plugin Framework 2
Writing Confluence Plugins

Creating your Plugin Descriptor

On this page:
Purpose of a Plugin Descriptor

When developing a plugin for an Atlassian application such as Confluence or JIRA, you need to create a 'plugin descriptor' for your plugin. The plugin descriptor is an XML file that tells the application all about the plugin and the modules contained within it. The descriptor must be a single file named `atlassian-plugin.xml` and must be located at the root of the plugin's jar file.

Example of a Plugin Descriptor

Here is a sample plugin descriptor:

```xml
<!-- Every plugin must have a key, which identifies the plugin uniquely to the system -->
<!-- and a name, which is used to display the plugin in menus. -->
<atlassian-plugin key="com.atlassian.confluence.plugins.example" name="Example Plugin" plugins-version="2">

<!-- The plugin info block allows you to provide more information about your plugin -->
<plugin-info>
  <description>
    A sample plugin for demonstrating the file format.
  </description>
  <!-- This version is displayed in the application's Plugin Manager. -->
  <version>1.0</version>
  <!-- The versions of the application this plugin is compatible with -->
  <application-version min="1.3" max="1.3"/>
  <vendor name="Atlassian Software Systems Pty Ltd" url="http://www.atlassian.com/"/>
  <!-- The location of any plugin configuration (optional) -->
  <param name="configure.url">/admin/plugins/example/configurePlugin.action</param>
  <!-- Specifically declare bundle instructions (optional) -->
  <bundle-instructions>
    <Export-Package>my.external.pkg</Export-Package>
    <Import-Package>com.mylibrary,*;resolution=optional</Import-Package>
  </bundle-instructions>
</plugin-info>

<!-- Here is where you define your modules. The code you use -->
<!-- to define a module depends on the module itself. This is just -->
<!-- a sample, which will not load if installed into Confluence -->
<example key="module1" name="Example Module" class="com.atlassian.confluence.plugins.example.ExampleModule">
  <!-- Modules must have a key that is unique within the plugin, a name -->
  <!-- and an implementing class. -->
  <description>An example module</description>
</example>
</atlassian-plugin>
```

Contents of the Plugin Descriptor

Below is a description of the plugin information provided in the descriptor XML file.

**atlassian-plugin element**

This is the root element for your plugin descriptor. For example, the plugin descriptor file should have this structure:
Confluence 3.0 Documentation

Attribute Description

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>key</td>
<td>Each plugin has a plugin key which must be unique to the plugin. We suggest using the Java convention of reversing your domain name in order to ensure your key is unique. The plugin key must be defined in the plugin descriptor. When you call the plugin via a macro in Wiki Markup, you can use any capitalisation, e.g. <code>{module1}</code> or <code>{Module1}</code>. Within the plugin, each module has a module key. Refer to the information on module types for information about the module key.</td>
</tr>
<tr>
<td>name</td>
<td>This is a human-readable name, used for display in menus within the application.</td>
</tr>
<tr>
<td>state</td>
<td>To disable the entire plugin by default, specify <code>&lt;atlassian-plugin state=&quot;disabled&quot;/&gt;</code>.</td>
</tr>
<tr>
<td>plugins-version</td>
<td>To create an OSGi plugin, use <code>plugins-version=&quot;2&quot;</code>. The attribute <code>pluginsVersion</code> is still supported but has been deprecated since version 2.1 of the plugin framework.</td>
</tr>
</tbody>
</table>

**plugin-info element**

This element contains plugin information displayed by the application for administrators, plugin parameters and OSGi bundle instructions. Its parent element is `<atlassian-plugin>`, and it supports several nested elements.

<table>
<thead>
<tr>
<th>Nested element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;description&gt;</code></td>
<td>A human-readable description of your plugin.</td>
</tr>
<tr>
<td><code>&lt;version&gt;</code></td>
<td>The version of your plugin. This number is displayed in the application's plugin manager.</td>
</tr>
<tr>
<td><code>&lt;application-version&gt;</code></td>
<td>Supply the versions of the application that will support your plugin.</td>
</tr>
<tr>
<td><code>&lt;vendor&gt;</code></td>
<td>Supply information about the developer of the plugin.</td>
</tr>
<tr>
<td><code>&lt;param&gt;</code></td>
<td>Supply parameter values if required by your plugin.</td>
</tr>
<tr>
<td><code>&lt;bundle-instructions&gt;</code></td>
<td>Declare plugin dependencies and shorten your export package lists by specifying OSGi bundle instructions directly in the plugin XML (OSGi plugins only).</td>
</tr>
</tbody>
</table>

These nested elements are described in more detail below.

**description element**

The body of this element is a description of your plugin. Its parent element is `<plugin-info>`.

```
<atlassian-plugin ...>
  <plugin-info>
    <!-- ... -->
    <description>New macros for integration with Acme Corp. web services</description>
  </plugin-info>
</atlassian-plugin>
```

**version element**

The body of this element is the current version of your plugin. Its parent element is `<plugin-info>`.

Plugin versions are sometimes compared within an application to determine the newer version, particularly when performing automated upgrades. Versions are compared by splitting the version number into components and comparing them numerically first and alphabetically second.

Following are some sample version numbers in ascending order: 0.99, 1.0, 1.0.1-alpha, 1.0.1-beta, 1.0.1-beta2, 1.0.1, 1.0.1.0, 1.1, 1.2, 1.10, 2.0.
**application-version element**

*Deprecated since Atlassian Plugin Framework 2.2*

Describe which versions of the host application are compatible with this plugin. Enforcement of this property varies between applications: some applications strictly enforce compatibility, while others ignore the value.

Its parent element is `<plugin-info>`.

<table>
<thead>
<tr>
<th>Attribute name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>min</td>
<td>This is the lowest version of the application which your plugin is compatible with.</td>
</tr>
<tr>
<td>max</td>
<td>This is the highest version of the application which your plugin is compatible with.</td>
</tr>
</tbody>
</table>

**vendor element**

The vendor of the plugin. Provides a link in the plugin administration screens.

Its parent element is `<plugin-info>`.

<table>
<thead>
<tr>
<th>Attribute name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Supply your name or the name of the company you work for.</td>
</tr>
<tr>
<td>url</td>
<td>Supply a web site address.</td>
</tr>
</tbody>
</table>

**param element**

Arbitrary parameters for a plugin. These can be nested in many other elements. Attribute 'name' gives the name of the parameter. The body of the element is its value.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>The name of the parameter.</td>
</tr>
<tr>
<td>(body)</td>
<td>The value of the parameter.</td>
</tr>
</tbody>
</table>

One commonly used parameter is the URL for your plugin's configuration screen. Its parent element is `<plugin-info>`. Below is an example.
bundle-instructions element

This element allows you to declare plugin dependencies and shorten your export package lists by specifying OSGi bundle instructions directly in the plugin XML. The element's parent element is <plugin-info>.

As seen in the above example, the bundle-instructions element allows child elements, including:

- <Export-Package>
- <Import-Package>

The Atlassian Plugin Framework uses the bnd tool to generate OSGi bundles. This tool is available as the Bundle Plugin for Maven.

For details of the bnd directives, please refer to the bnd documentation.

Elements Describing Plugin Modules

In the rest of the descriptor XML file, you will define any modules that make up your plugin. Please refer to the list of module types for more information.

RELATED TOPICS

Writing Confluence Plugins

- Enabling TinyMCE Plugins
- Converting a Plugin to Plugin Framework 2
- Creating your Plugin Descriptor
- Confluence Plugin Module Types
- Accessing Confluence Components From Plugin Modules
- Including Javascript and CSS resources
- Adding Plugin and Module Resources
- Adding a Configuration UI for your Plugin
- Ensuring Standard Page Decoration in your Plugin UI
- Making your Plugin Modules State Aware
- Confluence Plugin Tutorials
- Form Token Handling

Information sourced from Plugin Framework documentation

Confluence Plugin Module Types

Confluence supports the following types of plugin modules:

<table>
<thead>
<tr>
<th>Module Type</th>
<th>Since version...</th>
<th>Documentation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>codeformatter</td>
<td>2.2</td>
<td>Code Formatting Plugins</td>
<td>Adds new languages to the {code} macro</td>
</tr>
<tr>
<td>colour-scheme</td>
<td>1.3</td>
<td>Theme Plugins</td>
<td>A colour-scheme for a theme</td>
</tr>
<tr>
<td>component</td>
<td>2.10</td>
<td>Component Plugins</td>
<td>Adds components to Confluence's component system. This is the newer and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>recommended version of the component module type.</td>
</tr>
<tr>
<td>Component Type</td>
<td>Version</td>
<td>Module Type</td>
<td>Description</td>
</tr>
<tr>
<td>----------------</td>
<td>---------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>component</td>
<td>1.4</td>
<td>Component Plugins - Old Style</td>
<td>Adds components to Confluence's component system. This is the earlier version of the component module type.</td>
</tr>
<tr>
<td>component-import</td>
<td>2.10</td>
<td>Component Import Plugins</td>
<td>Accesses Java components shared by other plugins.</td>
</tr>
<tr>
<td>decorator</td>
<td>2.5</td>
<td>Decorator Plugins</td>
<td>Adds decorators without using a Theme Plugin</td>
</tr>
<tr>
<td>extractor</td>
<td>1.4</td>
<td>Extractor Plugins</td>
<td>Adds information to the Confluence search index</td>
</tr>
<tr>
<td>editor</td>
<td>2.5</td>
<td>Editor Plugins</td>
<td>Adds a Wysiwyg editor to the Confluence edit page</td>
</tr>
<tr>
<td>job</td>
<td>2.2</td>
<td>Job Plugins</td>
<td>Adds repeatable jobs to Confluence</td>
</tr>
<tr>
<td>language</td>
<td>2.2</td>
<td>Language Pack Plugins</td>
<td>Adds language translations to Confluence</td>
</tr>
<tr>
<td>layout</td>
<td>1.3</td>
<td>Theme Plugins</td>
<td>A layout (decorator) definition for a theme</td>
</tr>
<tr>
<td>lifecycle</td>
<td>2.3</td>
<td>Lifecycle Plugins</td>
<td>Schedule tasks to be run on application startup and shutdown</td>
</tr>
<tr>
<td>listener</td>
<td>1.4</td>
<td>Event Listener Plugins</td>
<td>A component that can respond to events occurring in the Confluence server</td>
</tr>
<tr>
<td>macro</td>
<td>1.3</td>
<td>Macro Plugins</td>
<td>A macro used in wiki to HTML conversions (e.g. {color}). Outputs HTML that can be embedded in a page or layout. Can retrieve user, page and space info, or external content (e.g. RSS)</td>
</tr>
<tr>
<td>module-type</td>
<td>2.10</td>
<td>Module Type Plugins</td>
<td>Dynamically adds new plugin module types to the plugin framework, generally building on other plugin modules.</td>
</tr>
<tr>
<td>path-converter</td>
<td>2.8</td>
<td>Path Converter Plugins</td>
<td>Allows you to install custom URL schemes as a part of your plugin, i.e. you can have 'pretty' URLs.</td>
</tr>
<tr>
<td>rpc-soap</td>
<td>1.4</td>
<td>RPC Plugins</td>
<td>Deploys a SOAP service within Confluence</td>
</tr>
<tr>
<td>rpc-xmlrpc</td>
<td>1.4</td>
<td>RPC Plugins</td>
<td>Deploys an XML-RPC service within Confluence</td>
</tr>
<tr>
<td>servlet</td>
<td>1.4</td>
<td>Servlet Plugins</td>
<td>A standard Java servlet deployed within a Confluence plugin</td>
</tr>
<tr>
<td>servlet-context-listener</td>
<td>2.10</td>
<td>Servlet Context Listener Plugins</td>
<td>Deploys Java Servlet context listeners as a part of your plugin.</td>
</tr>
<tr>
<td>servlet-context-param</td>
<td>2.10</td>
<td>Servlet Context Parameter Plugins</td>
<td>Sets parameters in the Java Servlet context shared by your plugin's servlets, filters, and listeners.</td>
</tr>
<tr>
<td>servlet-filter</td>
<td>2.10</td>
<td>Servlet Filter Plugins</td>
<td>Deploys Java Servlet filters as a part of your plugin, specifying the location and ordering of your filter.</td>
</tr>
<tr>
<td>spring</td>
<td>2.2</td>
<td>Spring Component Plugins - Old Style</td>
<td>Add a Spring component. Unlike component plugins these allow the use of full Spring configuration XML</td>
</tr>
<tr>
<td>theme</td>
<td>1.3</td>
<td>Theme Plugins - Old Style</td>
<td>A custom look-and-feel for a Confluence site or space</td>
</tr>
<tr>
<td>trigger</td>
<td>2.2</td>
<td>Trigger Plugins</td>
<td>Adds triggers which schedule jobs</td>
</tr>
<tr>
<td>usermacro</td>
<td>2.3</td>
<td>User Macro Plugins</td>
<td>Allows a simple macro to be created in the plugin XML file, with no Java coding necessary</td>
</tr>
<tr>
<td>velocity-context-item</td>
<td>1.4</td>
<td>Velocity Context Plugins</td>
<td>Adds helper objects to Confluence's Velocity context</td>
</tr>
<tr>
<td>web-item</td>
<td>2.2</td>
<td>Web UI Plugins</td>
<td>Adds links or tabs to the Confluence UI</td>
</tr>
<tr>
<td>web-resource</td>
<td>2.8</td>
<td>including Javascript and CSS resources</td>
<td>Allows you to include Javascript and CSS resources</td>
</tr>
<tr>
<td>web-section</td>
<td>2.2</td>
<td>Web UI Plugins</td>
<td>Adds sections of links to the Confluence UI</td>
</tr>
<tr>
<td>xwork</td>
<td>1.4</td>
<td>XWork-WebWork Plugins</td>
<td>XWork/Webwork actions and views bundled with a plugin, enabling user interaction</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- Writing Confluence Plugins
- Installing and Configuring Plugins Manually
Code Formatting Plugins

Code formatting plugin modules are available in Confluence 2.2 and later versions

Code formatting plugin modules allow you to add new languages to the (code) macro. Whenever the code macro is invoked, the macro checks the 'language' parameter against the languages supported by the available formatting plugins, and uses that plugin to format the source code.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins

Here is an example file containing a single code formatter:

```xml
<atlassian-plugin name="My Formatter" key="confluence.extra.formatters">
  <codeformatter name="ruby" key="ruby" class="com.example.confluence.formatters.RubyFormatter">
    <description>Code formatter for the Ruby programming language</description>
  </codeformatter>
</atlassian-plugin>
```

- the class attribute defines the class that will be added to the available formatters. This class must implement com.atlassian.renderer.v2.macro.code.SourceCodeFormatter

The SourceCodeFormatter Interface

All code formatters must implement the following simple interface:

```java
package com.atlassian.renderer.v2.macro.code;

/**<p>Strategy for converting a block of source code into pretty-printed HTML. SourceCodeFormatters MUST be forgiving: they will be dealing with user-supplied input, so they can't afford to blow up on bad data.</p>*/
public interface SourceCodeFormatter {
  /**
   * Inform the CodeMacro which languages this formatter supports. So if someone writes [code:java], then only the formatter that returns "java" from this method will be used to format it.
   * @return an array of languages that this formatter supports
   */
  String[] getSupportedLanguages();

  /**
   * Convert source code into HTML.
   * @param code the source code as a string
   * @param language the programming language that it is believed this code is written in
   * @return the source code formatted as HTML
   */
  String format(String code, String language);
}
```

Formatter Priority

There is no concept of priority for formatters. If two formatters are installed and both return the same value from getSupportedLanguages(), one will be selected pretty much at random. If you want to avoid this behaviour, deactivate formatters that you no longer want to use.

Component Import Plugins

On this page:

- Purpose of this Module Type
- Configuration
  - Attributes
  - Elements
- Example
Notes

Purpose of this Module Type

Component Import plugin modules allow you to access Java components shared by other plugins, even if the component is upgraded at runtime.

Configuration

The root element for the Component Import plugin module is `component-import`. It allows the following attributes and child elements for configuration:

Attributes

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td></td>
<td>The class which implements this plugin module. The class you need to provide depends on the module type. For example, Confluence theme, layout and colour-scheme modules can use classes already provided in Confluence. So you can write a theme-plugin without any Java code. But for macro and listener modules you need to create your own implementing class and include it in your plugin.</td>
<td></td>
</tr>
<tr>
<td>disabled</td>
<td></td>
<td>Indicate whether the plugin module should be disabled by default (value='true') or enabled by default (value='false').</td>
<td>false</td>
</tr>
<tr>
<td>i18n-name-key</td>
<td></td>
<td>The localisation key for the human-readable name of the plugin module.</td>
<td>false</td>
</tr>
<tr>
<td>interface</td>
<td></td>
<td>The Java interface of the component to import. This attribute is only required if the interface elements are not used.</td>
<td>N/A</td>
</tr>
<tr>
<td>key</td>
<td>✓</td>
<td>The identifier of the plugin module. This key must be unique within the plugin where it is defined. Sometimes you will need to uniquely identify a module. Do this with the module complete key. A module with key fred in a plugin with key com.example.modules will have a complete key of com.example.modules:fred. i.e. The identifier of the component to import.</td>
<td>N/A</td>
</tr>
<tr>
<td>name</td>
<td></td>
<td>The human-readable name of the plugin module. i.e. the human-readable name of the component to import.</td>
<td></td>
</tr>
<tr>
<td>system</td>
<td></td>
<td>Indicates whether this plugin module is a system plugin module (value='true') or not (value='false'). Only available for non-OSGi plugins.</td>
<td>false</td>
</tr>
</tbody>
</table>

Elements

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td></td>
<td>The description of the plugin module. The 'key' attribute can be specified to declare a localisation key for the value instead of text in the element body. i.e. the description of the component to import.</td>
<td></td>
</tr>
<tr>
<td>interface</td>
<td>✓</td>
<td>The Java interface under which the component to retrieve is registered. This element can appear zero or more times, but is required if the interface attribute is not used.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Example

Here is an example `atlassian-plugin.xml` file containing a single component import:

```xml
<atlassian-plugin name="Hello World" key="example.plugin.helloworld" plugins-version="2">
  <plugin-info>
    <description>A basic component import module test</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
  <component-import key="helloWorldService">
    <description>Consumes the hello world service.</description>
    <interface>com.myapp.HelloWorldService</interface>
  </component-import>
</atlassian-plugin>
```

It consumes a component made available via a different plugin:
<atlassian-plugin name="Hello World Provider" key="example.plugin.helloworld.provider" plugins-version="2">
    <plugin-info>
        <description>A basic component module test</description>
        <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
        <version>1.0</version>
    </plugin-info>
    <component key="helloWorldService" class="com.myapp.internal.MyHelloWorldService" public="true">
        <interface>com.myapp.HelloWorldService</interface>
    </component>
</atlassian-plugin>

Notes

Some information to be aware of when developing or configuring a Component Import plugin module:

- Component imports, at installation time, are used to generate the atlassian-plugins-spring.xml Spring Framework configuration file, transforming Component Import plugin modules into OSGi service references using Spring Dynamic Modules.
- The imported component will have its bean name set to the component import key, which may be important if using 'by name' dependency injection.
- If you wish to have more control over how imported services are discovered and made available to your plugin, you can create your own Spring configuration file containing Spring Dynamic Modules elements, stored in META-INF/spring in your plugin jar. This is recommended if you are needing to import multiple services that implement an interface, for example.
- You can use component imports to customise the bean name of host components, particularly useful if you plan to use 'by name' dependency injection.

RELATED TOPICS

Writing Confluence Plugins
Installing and Configuring Plugins Manually

Information sourced from Plugin Framework documentation

Component Plugins

On this page:
- Recommended Plugin Module Type
- Purpose of this Module Type
- Configuration
  - Attributes
  - Elements
- Example
- Notes
- Accessing Your Components

Recommended Plugin Module Type

The Component plugin module described below is available to OSGi-based plugins using version 2.x of the Atlassian Plugin Framework, supported in Confluence 2.10 and later.

We recommend that you use the new plugin module type described below, rather than the old-style Component and Spring Component module types. Confluence still supports the earlier module types, but the new OSGi-based plugin framework fixes a number of bugs and limitations experienced by the old-style plugin modules.

Purpose of this Module Type

Component plugin modules enable you to share Java components between other modules in your plugin and optionally with other plugins in the application.

Configuration

The root element for the Component plugin module is component. It allows the following attributes and child elements for configuration:

Attributes

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>alias</td>
<td></td>
<td>The alias to use for the component when registering it in the internal bean factory.</td>
<td>The plugin key</td>
</tr>
</tbody>
</table>
class The class which implements this plugin module. The class you need to provide depends on the module type. For example, Confluence theme, layout and colour-scheme modules can use classes already provided in Confluence. So you can write a theme-plugin without any Java code. But for macro and listener modules you need to write your own implementing class and include it in your plugin. The Java class of the component. This does not need to extend or implement any class or interface.

key The identifier of the plugin module. This key must be unique within the plugin where it is defined. Sometimes you will need to uniquely identify a module. Do this with the **module complete key**. A module with key `fred` in a plugin with key `com.example.modules` will have a complete key of `com.example.modules:fred`. I.e. the identifier of the component.

i18n-name-key The localisation key for the human-readable name of the plugin module.

name The human-readable name of the plugin module. I.e. the human-readable name of the component. The plugin key.

public Indicates whether this component should be made available to other plugins via the Component Import Plugin Module or not.

system Indicates whether this plugin module is a system plugin module (value='true') or not (value='false'). Only available for non-OSGi plugins.

### Elements

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>interface</td>
<td></td>
<td>The Java interface under which this component should be registered. This element can appear zero or more times.</td>
<td>N/A</td>
</tr>
<tr>
<td>description</td>
<td></td>
<td>The description of the plugin module. The 'key' attribute can be specified to declare a localisation key for the value instead of text in the element body.</td>
<td></td>
</tr>
</tbody>
</table>

### Example

Here is an example `atlassian-plugin.xml` file containing a single public component:

```xml
<atlassian-plugin name="Hello World" key="example.plugin.helloworld" plugins-version="2">
  <plugin-info>
    <description>A basic component module test</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>

  <component key="helloWorldService" class="com.myapp.DefaultHelloWorldService">
    <description>Provides hello world services.</description>
    <interface>com.myapp.HelloWorldService</interface>
  </component>
</atlassian-plugin>
```

### Notes

Some information to be aware of when developing or configuring a Component plugin module:

- Components, at installation time, are used to generate the `atlassian-plugins-spring.xml` Spring Framework configuration file, transforming Component plugin modules into Spring bean definitions. The generated file is stored in a temporary plugin jar and installed into the framework. The plugin author should very rarely need to override this file.
- The injection model for components first looks at the constructor with the largest number of arguments and tries to call it, looking up parameters by type in the plugin’s bean factory. If only a no-arg constructor is found, it is called then Spring tries to autowire the bean by looking at the types used by setter methods. If you wish to have more control over how your components are created and configured, you can create your own Spring configuration file, stored in `META-INF/spring` in your plugin jar.
- If the `public` attribute is set to 'true', the component will be turned into an OSGi service under the covers, using Spring Dynamic Modules to manage its lifecycle.
- This module type in non-OSGi (version 1) plugins supported the StateAware interface in some products to allow a component to react to when it is enabled or disabled. To achieve the same effect, you can use the two Spring lifecycle interfaces: InitializingBean and DisposableBean. The `init()` and `destroy()` methods on these interfaces will be called when the module is enabled or disabled, exactly like StateAware. Making this change to a component in an existing plugin will be backwards compatible in all but JIRA. That is, a component module in a legacy plugin which implements InitializingBean will have its `init()` method called when it is enabled, exactly the same as such a component in an OSGi plugin.
- Components for non-OSGi (version 1) plugins behave very differently to components for OSGi plugins. For version 1 plugins, components are loaded into the application’s object container, be it PicoContainer for JIRA or Spring for all other products that
support components. For OSGi plugins, components are turned into beans for the Spring bean factory for that specific plugin. This provides more separation for plugins, but means you cannot do things like override JIRA components in OSGi plugins, as you can for static plugins.

Accessing Your Components

Accessing your components from within other plugin modules is extremely simple. All plugin modules in OSGi plugins are autowired. So to access a component, you need to add a Java setter method to your plugin module class.

For example, if you wanted to use the above `helloWorldService` component in an event listener module, you would add a field for the component and a setter method to the listener class as follows:

```java
public class MyEventListener implements EventListener {
    private HelloWorldService helloWorldService;
    // ...
    public void setHelloWorldService(HelloWorldService helloWorldService) {
        this.helloWorldService = helloWorldService;
    }
}
```

Note that to access components in other plugins, the module needs to be marked as 'public' (as covered above) and imported into your plugin using a `component-import`.

RELATED TOPICS

Writing Confluence Plugins
Installing and Configuring Plugins Manually

Information sourced from Plugin Framework documentation

Component Plugins - Old Style

This is an outdated module type

The Component plugin module described below belongs to the first version of the Atlassian Plugin Framework. A new Component plugin module is available to OSGi-based plugins using version 2.x of the Atlassian Plugin Framework, supported in Confluence 2.10 and later.

On this page:

- Old-Style Plugin Module Type
- Purpose of this Module Type
- Component Plugin Module
- Accessing Your Components
  - Autowired Objects
  - Non-autowired Objects
- Notes

Old-Style Plugin Module Type

We recommend that you use the new plugin module type, rather than the old-style Component described below. Confluence still supports the earlier module type, but the new OSGi-based plugin framework fixes a number of bugs and limitations experienced by the old-style plugin modules.

Purpose of this Module Type

Component plugin modules enable you to add components to Confluence's internal component system (powered by Spring).

Component plugin modules are available in Confluence 1.4 and later.

Component Plugin Module

Each component module adds a single object to Confluence’s component management system.

Other plugins and objects within Confluence can then be autowired with your component. This is very useful for having a single component that is automatically passed to all of your other plugin modules (ie a Manager object).

Here is an example `atlassian-plugin.xml` file containing a single component module:
the name attribute represents how this component will be referred to in the interface.
the key attribute represents the internal, system name for your component.
the class attribute represents the class of the component to be created
the alias attribute represents the alias this component will be stored with. This element is optional, if not specified the module key will be used instead.

Accessing Your Components

Accessing your components is extremely simple.

Autowired Objects

If your object is being autowired (for example another plugin module or an XWork action), the easiest way to access a component is to add a basic Java setter method.

For example, if you use the above BogusComponent module your object would retrieve the component as follows:

```java
public void setBogusComponent(BogusComponent bogusComponent) {
    this.bogusComponent = bogusComponent;
}
```

Non-autowired Objects

If your object is not being autowired, you may need to retrieve the component explicitly. This is done via the ContainerManager like so:

```java
BogusComponent bc = (BogusComponent) ContainerManager.getComponent("bogusComponent");
```

Notes

Some issues to be aware of when developing a component:

- One component module can depend on another component module but be careful of circular references (ie A requires B, B requires A).
- The component “namespace” is flat at the moment, so choose a sensible alias for your component.

RELATED TOPICS

Component Plugins
Writing Confluence Plugins
Installing and Configuring Plugins Manually

Decorator Plugins

Decorator plugin modules are available in Confluence 2.5 and later versions

Decorator plugin modules allow you to add decorators without using a Theme Plugin.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins

Decorator Plugin Module

The following is an example atlassian-plugin.xml file containing a single decorator:
• the `page` attribute of `decorator` defines the name of the decorator resource file
• the `pattern` element defines the url pattern for which the decorator will be applied to (you can only have one pattern per decorator)

**Decorator resource file**

Decorator files are written in the Velocity templating language and have the VMD extension. The following is a sample decorator file:

```html
<html>
<head>
    <title>$title</title>
</head>
<div id="PageContent">
    <table class="pagecontent" border="0" cellpadding="0" cellspacing="0" width="100%">
        <tr>
            <td valign="top" class="pagebody">
                <div class="pageheader">
                    <span class="pagetitle">$title</span>
                </div>
                $body
            </td>
        </tr>
    </table>
</div>
</body>
</html>
```

You can familiarise yourself with Velocity at the [Velocity Template Overview](https://sitemesh.apache.org/) and decorators in general at the [Sitemesh homepage](https://sitemesh.apache.org/).

**Editor Plugins**

Editor plugin modules are available in Confluence 2.5 and later versions

Editor plugin modules allow you to implement WYSIWYG editors for editing Confluence pages. Currently, Confluence only supports the use of one WYSIWYG editor during editing even if there are multiple editor plugins enabled. It is not guaranteed that any one editor will be used over another, hence it is recommended that only one editor is enabled at a time.

• For more information about plugins in general, read [Confluence Plugin Guide](https://confluence.atlassian.com/pages/overview/confluence-plugin-guide).
• To learn how to install and configure plugins (including macros), read [Installing and Configuring Plugins Manually](https://confluence.atlassian.com/pages/overview/confluence-plugin-guide).
• For an introduction to writing your own plugins, read [Writing Confluence Plugins](https://confluence.atlassian.com/pages/overview/confluence-plugin-guide).

**Editor Plugin Module**

The following is a snippet of `atlassian-plugin.xml` from the TinyMCE Editor:

```xml
<atlassian-plugin key="com.atlassian.confluence.extra.tinymceplugin" name="TinyMCE Editor Plugin">
    <plugin-info>
        <description>TinyMCE Editor Plugin for Confluence</description>
        <vendor name="Atlassian" url="http://www.atlassian.com"/>
        ...
    </plugin-info>
    <editor name="tinymceeditor" class="com.atlassian.confluence.extra.tinymceplugin.TinymceEditor" key="tinymceeditor">
        <description>TinyMCE Editor</description>
    </editor>
    ...
</atlassian-plugin>
```

The `class` attribute defines the Java class for which the editor will interact with Confluence. This class must implement `com.atlassian.confluence.plugin.editor`. 
All editors must implement the following interface:

```java
package com.atlassian.confluence.plugin.editor;

/**
 * This interface allows Wysiwyg editors to be plugged in to Confluence.
 */
public interface Editor
{
    /**
     * Returns javascript functions to allow the wiki-textarea.vm to interface with the editor.
     * The Javascript returned must define the functions:
     * - onShowEditor() -- this is called just after the DIV containing the editor is made visible. It is a hook where you
     *      can place any special code needed at this point.
     * - onHideEditor() -- this is called just before the DIV containing the editor is hidden. It
     *      is a hook where you
     *      can place any special code needed at this point.
     * - setEditorValue(newValue) -- put the text in newValue into the editor. This is called
     *      when the editor needs new
     *      content -- it is *not* called to set the initial content. That should be done
     *      either by providing the
     *      editor with the content as part of the initial HTML or by calling javascript from
     *      editorOnLoad().
     * - allowModeChange() -- return true if the editor is in a state where changes from rich
text to markup and vice versa are allowed.
     * - getEditorHTML() -- return the current HTML contents of the editor. This *must* return a
     *      JavaScript string,
     *      not a JavaObject wrapping a java.lang.String!
     * - editorOnLoad() -- called in the page’s onLoad handler, place any initialization needed
     *      at this point here.
     * - editorHasContentChanged() -- return true if the contents of the editor has been modified
     *      by the user since
     *      the last time editorResetContentChanged().
     * - editorResetContentChanged() -- called to reset the contents change indicator
     *      Note these methods won’t be called when the editor is not visible.
     * - The javascript must be surrounded by a <script> element.
     * @return a String containing a velocity template
     */
    String getJavascriptTemplate();

    /**
     * Returns the div contents to display the editor itself.
     * @return a String containing a velocity template
     */
    String getDivContentsTemplate();

    /**
     * Return true if the user agent string indicates a browser which is supported by this
     * editor.
     * @param userAgent
     * @return true if this editor is supported
     */
    boolean supportedUserAgent(String userAgent);

    /**
     * Perform any necessary escaping of the HTML rendered by Confluence. The
     * AbstractPreviewPageAction.getWysiwygContent() method uses this method to escape the rendered HTML.
     * @param html
     * @return a String containing a velocity template
     */
    String escapeHtml(String html);

    /**
     * Return a string of CSS which will be appended to the standard stylesheet if it is
     * requested from /styles/wysiwyg-action
     * Note that it is up to the editor implementation to retrieve this stylesheet and apply it
     * to the editor contents --
     * the page containing the editor is styled with the normal stylesheet.
     */
    String getEditorSpecificCss();
}
```

For an example, you can view the source for the TinyMCE Plugin.

**Event Listener Plugins**
Every time something important happens within Confluence (a page is added or modified, the configuration is changed, etc.), an ‘event’ is triggered. Listeners allow you to extend Confluence by installing code that responds to those events.

**Availability**
Listener plugins are available in Confluence 1.4 and later.

**Plugin Events**
It is possible to listen for plugin install/uninstall/enable/disable events, however this will be unreliable when trying to listen for events about your own plugin. You will *not* receive a PluginDisableEvent or PluginUninstallEvent for the plugin itself. To trigger actions for these events, one (or more) of your modules (macro, event listener, etc.) should implement the Making Your Plugin Modules State Aware interface instead.

**Synchronous Events**
Confluence events are currently processed synchronously - that is, Confluence will wait for your event to finish processing before returning from the method that was the source of the event. This makes it *very important* that any event listener you write completes as quickly as possible.

Asynchronous events will be forthcoming in a future Developer Release.

### Adding a listener plugin

Listeners are a kind of Confluence plugin module.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins

#### The Listener Plugin Module

Each listener is a plugin module of type “listener”, packaged with whatever Java classes and other resources that the listener requires in order to run. Here is an example atlassian-plugin.xml file containing a single listener:

```xml
<atlassian-plugin name='Optional Listeners' key='confluence.extra.auditor'>
  <plugin-info>
    <description>Audit Logging</description>
    <vendor name='Atlassian Software Systems' url='http://www.atlassian.com'/>
    <version>1.0</version>
  </plugin-info>
  <listener name='Audit Log Listener' class='com.example.listener.AuditListener' key='auditListener'>
    <description>Provides an audit log for each event within Confluence.</description>
  </listener>
</atlassian-plugin>
```

The listener module definition has no configuration requirements beyond any other module: just give it a name, a key, and provide the name of the class that implements the listener.

#### The Listener Class

The **class** attribute of the listener module definition must refer to a Java class that implements the `com.atlassian.confluence.event.EventListener` interface. This is the interface:
Events and Event Types

All events within Confluence extend from com.atlassian.com.event.events.ConfluenceEvent. In general, we use the following convention for naming each type of ConfluenceEvent:

\[ <Object><Operation>Event \]

For example, we have the following event types relating to space events: SpaceCreateEvent, SpaceUpdateEvent, SpaceRemoveEvent. In the above description, space would correspond to \(<Object>\) and create, update, or remove would correspond to \(<Operation>\).

Occasionally, an operation is so singular that its meaning will be obvious without use of this naming convention; for example a LoginEvent or ConfigurationEvent.

A full catalogue of the events available within Confluence will be forthcoming before the 1.4 final release.

Limitations of Events

- Events are a notification that something has occurred. The event system is not designed to allow a listener to veto the action that caused the event.
- There is no loop-detection. If you write a listener for the SpaceModifiedEvent that itself causes a SpaceModifiedEvent to be generated, you are responsible for preventing the ensuing infinite loop.

Example Code

A more detailed example, with sample code, can be found in Writing an Event Listener Plugin Module.

Writing an Event Listener Plugin Module

Overview

For an introduction to event listener plugin modules, please read Event Listener Plugins.

Writing an Event Listener as a plugin module within Confluence

Writing an event listener is a four-step process:

```java
package com.atlassian.confluence.event;
import com.atlassian.confluence.event.events.ConfluenceEvent;

public interface EventListener {
    void handleEvent(ConfluenceEvent event);
}
```
1. Identify the events you wish to listen for
2. Create the EventListener Java class
   a. Implement getHandledEventClasses()
   b. Implement handleEvent()
3. Add the listener module to your atlassian-plugin.xml file

Identify the events you wish to listen for

The easiest thing here is to consult the latest API, in the package com.atlassian.confluence.event.events. When you implement an EventListener you will provide an array of Class objects which represent the events you wish to handle.

The naming of most events are self explanatory (GlobalSettingsChangedEvent or ReindexStartedEvent for example), however there are some which need further clarification:

<table>
<thead>
<tr>
<th>Event Class</th>
<th>Published</th>
</tr>
</thead>
<tbody>
<tr>
<td>LabelCreateEvent</td>
<td>On the creation of the first label to the target Content Entity Object.</td>
</tr>
<tr>
<td>LabelRemoveEvent</td>
<td>On the removal of the last label from the target Content Entity Object.</td>
</tr>
<tr>
<td>LabelAddEvent</td>
<td>On the addition of any label to the target Content Entity Object.</td>
</tr>
<tr>
<td>LabelDeleteEvent</td>
<td>On the deletion of any label from the target Content Entity Object.</td>
</tr>
</tbody>
</table>

Create the EventListener

The EventListener interface defines two methods which must be implemented: getHandledEventClasses() and handleEvent().

Implement getHandledEventClasses()

The getHandledEventClasses() method holds an array of class objects representing the events you wish to listen for.

- Your listener will only receive events of the types specified in getHandledEventClasses()
- You must specify all the event types you need - specifying a superclass will not include its subclasses
- Returning an empty array will cause your listener to receive every event Confluence produces

So, if you want your listener to receive only SpaceCreatedEvent and SpaceRemovedEvent:

```java
private static final Class[] HANDLED_EVENTS = new Class[] {
    SpaceCreateEvent.class, SpaceRemovedEvent.class
};

public Class[] getHandledEventClasses()
{
    return HANDLED_EVENTS;
}
```

Alternatively, to receive all possible events:

```java
/**
 * Returns an empty array, thereby handling every ConfluenceEvent
 * @return
 */
public Class[] getHandledEventClasses()
{
    return new Class[0];
}
```

Implement handleEvent()

The implementation below simply relies upon the toString() implementation of the event and logs it to a log4j appender.

```java
public void handleEvent(ConfluenceEvent event)
{
    if (!initialized)
    {
        initializeLogger();
    }

    log.info(event);
}
```

Most often, a handleEvent(...) method will type check each event sent through it and execute some conditional logic.
A full example of an EventListener class that listens for login and logout events can be found in EventListener Example.

Add the EventListener as a module to your plugin by creating an atlassian-plugin.xml

The atlassian-plugin.xml file has been described elsewhere in detail. This is an example of a listener plugin module included in an atlassian-plugin.xml file.

```
<atlassian-plugin name='Optional Listeners' key='confluence.extra.auditor'>
  <plugin-info>
    <description>Audit Logging</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
  <listener name='Audit Log Listener' class='com.atlassian.confluence.extra.auditer.AuditListener' key='auditListener'>
    <description>Provides an audit log for each event within Confluence.</description>
  </listener>
</atlassian-plugin>
```

EventListener Example

Find an example of an EventListener below, which listens for the LoginEvent and LogoutEvent.

```java
public void handleEvent(ConfluenceEvent event)
{
  if (event instanceof LoginEvent)
  {
    LoginEvent loginEvent = (LoginEvent) event;
    // ... logic associated with the LoginEvent
  }
  else if (event instanceof LogoutEvent)
  {
    LogoutEvent logoutEvent = (LogoutEvent) event;
    // ... logic associated with the LogoutEvent
  }
}
```
Extractor Plugins

Extractor plugins allow you to hook into the mechanism by which Confluence populates its search index. Each time content is created or updated in Confluence, it is passed through a chain of extractors that assemble the fields and data that will be added to the search index for that content. By writing your own extractor you can add information to the index.

Extractor plugins can be used to extract the content from attachment types that Confluence does not support.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins.
- Extractor plugins are closely tied to the API of the Lucene Java library.

Confluence's internal search is built on top of the Lucene Java library. While familiarity with Lucene is not an absolute requirement for writing an extractor plugin, you'll need it to write anything more than the most basic of plugins.

Extractor Plugins
Here is an example `atlassian-plugin.xml` file containing a single search extractor:

```xml
<atlassian-plugin name="Sample Extractor" key="confluence.extra.extractor">
...

<extractor name="Page Metadata Extractor" key="pageMetadataExtractor"
class="confluence.extra.extractor.PageMetadataExtractor" priority="1000">
<description>Extracts certain keys from a page's metadata and adds them to the search index.</description>
</extractor>
...
</atlassian-plugin>
```

- the `class` attribute defines the class that will be added to the extractor chain. This class must implement `bucket.search.lucene.Extractor`.
- the `priority` attribute determines the order in which extractors are run. Extractors are run from the highest to lowest priority. Extractors with the same priority may be run in any order.

As a general rule, all extractors should have priorities below 1000, unless you are writing an extractor for a new attachment type, in which case it should be greater than 1000.

If you are not sure what priority to choose, just go with `priority="900"` for regular extractors, and `priority="1200"` for attachment content extractors.

To see the priorities of the extractors that are built into Confluence, look in `WEB-INF/classes/plugins/core-extractors.xml` and `WEB-INF/classes/plugins/attachment-extractors.xml`. From Confluence-2.6.0, these files are packaged inside `confluence-2.6.0.jar`; we have instructions for Editing Files within JAR Archives if you’re unfamiliar with the process.

### The Extractor Interface

All extractors must implement the following interface:

```java
package bucket.search.lucene;

import bucket.search.Searchable;

public interface Extractor
{
    public void addFields(Document document, StringBuffer defaultSearchableText, Searchable searchable);
}
```

- The `document` parameter is the Lucene document that will be added to the search index for the object that is being saved. You can add fields to this document, and the fields will be associated with the object in the index.
- The `defaultSearchableText` is the main body of text that is associated with this object in the search index. It is stored in the index as a `Text` field with the key “content”. If you want to add text to the index such that the object can be found by a regular Confluence site search, append it to the `defaultSearchableText`. (Remember to also append a trailing space, or you’ll confuse the next piece of text that’s added!)  
- The `searchable` is the object that is being saved, and passed through the extractor chain.

### Attachment Content Extractors

If you are writing an extractor that indexes the contents of a particular attachment type (for example, OpenOffice documents or Flash files), you should extend the abstract class `bucket.search.lucene.extractor.BaseAttachmentContentExtractor`. This class ensures that only one attachment content extractor successfully runs against any file (you can manipulate the priorities of attachment content extractors to make sure they run in the right order).

For more information, see: Attachment Content Extractor Plugins

### An Example Extractor

The following example extractor is untested, but it associates a set of page-level properties with the page in the index, both as part of the regular searchable text, and also as Lucene Text fields that can be searched individually, for example in a custom `{abstract-search}` macro.
Debugging

There's a really primitive Lucene index browser hidden in Confluence which may help when debugging. You'll need to tell it the filesystem path to your $conf-home/index directory.

http://yourwiki.example.com/admin/indexbrowser.jsp

Attachment Content Extractor Plugins

Extractor plugin modules are available in Confluence 1.4 and later

Attachment content extractor plugins enable Confluence to index the contents of attachments that it may not otherwise understand. Before you read this document, you should be familiar with Extractor Plugins.

The BaseAttachmentContentExtractor class

Attachment content extractor plugins must extend the bucket.search.lucene.extractor.BaseAttachmentContentExtractor base class. The skeleton of this class is:

```java
package com.example.extras.extractor;
import bucket.search.lucene.Extractor;
import bucket.search.Searchable;
import org.apache.lucene.document.Field;
import com.atlassian.confluence.core.ContentEntityObject;
import com.atlassian.confluence.core.ContentPropertyManager;
import com.opensymphony.util.TextUtils;

class ContentPropertyExtractor implements Extractor {
    public static final String[] INDEXABLE_PROPERTIES = {"status", "abstract"};

    private ContentPropertyManager contentPropertyManager;

    public void addFields(Document document, StringBuffer defaultSearchableText, Searchable searchable) {
        if (searchable instanceof ContentEntityObject) {
            ContentEntityObject contentEntityObject = (ContentEntityObject) searchable;
            for (int i = 0; i < INDEXABLE_PROPERTIES.length; i++) {
                String key = INDEXABLE_PROPERTIES[i];
                String value = contentPropertyManager.getStringProperty(contentEntityObject, key);
                if (TextUtils.stringSet(value)) {
                    defaultSearchableText.append(value).append(" ");
                    document.add(new Field(key, value, Field.Store.YES, Field.Index.TOKENIZED));
                }
            }
        }
    }

    public void setContentPropertyManager(ContentPropertyManager contentPropertyManager) {
        this.contentPropertyManager = contentPropertyManager;
    }
}
```
The first attachment content extractor that returns true from `shouldExtractFrom` and a not-null, not-empty String from `extractText()` will cause all remaining attachment content extractors not to run against this file. Thus, it's important to get the priority value for your plugin right, so general, but inaccurate extractors are set to run after specific, more accurate extractors.

Other (non-attachment) content extractors will still run, regardless.

**An Example**

This is an example of a hypothetical extractor that extracts the contents of mp3 ID3 tags.
Job Plugins

Job plugin modules are available in Confluence 2.2 and later.

Job plugin modules enable you to add repeatable tasks to Confluence, which are in turn scheduled by Trigger Plugins.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins

Job Plugin Module

The Job plugin module adds a simple reusable component within a plugin. At a minimum, the module class must implement Quartz's Job interface, but for access to Confluence's objects and database you should extend com.atlassian.quartz.jobs.AbstractJob. Jobs are scheduled with Trigger Plugins.

Note that at the moment Jobs are not autowired by Spring.

Here is an example atlassian-plugin.xml fragment containing a single Job module:

```xml
<atlassian-plugin name="Sample Component" key="confluence.extra.component">
  ...
  <job key="myJob" name="My Job" class="com.example.myplugin.jobs.MyJob"/>
  ...
</atlassian-plugin>
```

- the name attribute represents how this component will be referred to in the Confluence interface.
- the key attribute represents the internal, system name for your Job. This is what the Trigger will refer to.
- the class attribute represents the class of the Job to be created. The class must have a no-argument constructor, or it will not be able to be instantiated by Confluence.

For examples of how to schedule Jobs to be run, see Trigger Plugins.

Note that in Confluence 2.3 you can also use a Spring Plugin as a job. This allows you to inject other Spring components into the Job, via the "jobDataAsMap" property of the job. An example is shown below. You cannot do this in Confluence 2.2.

```java
package com.example.extras.extractor;
import com.hypothetical.id3.Id3Tag;
import bucket.search.lucene.extractor.BaseAttachmentContentExtractor;
import bucket.search.lucene.SearchableAttachment;
import java.io.InputStream;
import java.io.IOException;
public class Id3Extractor extends BaseAttachmentContentExtractor {
    public static final String[] MIME_TYPES = {
        "audio/x-mp3", "audio/mpeg", "audio/mp4a-latm"};
    public static final String[] FILE_EXTS = {"mp3", "m4a"};
    protected String extractText(InputStream is, SearchableAttachment attachment) throws IOException {
        Id3Tag tag = Id3Tag.parse(is);
        return (tag.getTitle() + " " + tag.getArtist() + " " + tag.getGenre() + " " + tag.getAlbumTitle());
    }
    protected String[] getMatchingContentTypes() {
        return MIME_TYPES;
    }
    protected String[] getMatchingFileExtensions() {
        return FILE_EXTS;
    }
}
```
Spring Job definition only supported with bundled plugins

Plugins containing Spring JobDetailBeans can't be dynamically loaded at present, due to classloading issues.

```xml
<spring name="Space Cleaner Job" key="spaceCleanerJob" id="spaceCleanerJob" class="org.springframework.scheduling.quartz.JobDetailBean">
    <property name="name">
        <value>Space Cleaner Job</value>
    </property>
    <property name="jobClass">
        <value>com.atlassian.confluence.extras.spacecleaner.SpaceCleanerJob</value>
    </property>
    <property name="jobDataAsMap">
        <map>
            <entry key="spaceManager"> <!-- these spring beans will be injected into the SpaceCleanerJob instance -->
                <ref bean="spaceManager"/>
            </entry>
            <entry key="pageManager">
                <ref bean="pageManager"/>
            </entry>
            <entry key="settingsManager">
                <ref bean="settingsManager"/>
            </entry>
            <entry key="trashManager">
                <ref bean="trashManager"/>
            </entry>
            <entry key="runOncePerCluster">
                <value>true</value>
            </entry>
        </map>
    </property>
</spring>

<trigger key="com.atlassian.confluence.extras.spacecleaner.SpaceCleanerJob.trigger" name="Space Cleaner Trigger">
    <job key="spaceCleanerJob"/>
    <schedule cron-expression="0 * * * * ?"/>
</trigger>
```

Language Pack Plugins

To run Confluence in another language, you must install a language pack plugin for that translation. Guides and tools for collaboratively creating translations have been made available to the Confluence community.

This page provides a technical overview of plugins, for users interested in creating or updating a translation. To install a translation, check out Community Translations.

Translations for the Rich Text Editor can be part of a Confluence language pack plugin.

Language Pack Overview

Language plugins are placed in the `<CONFLUENCE-INSTALL-DIRECTORY>/languages/<KEY>` directory, where `<KEY>` is the international language identifier. They consist of three files:

<table>
<thead>
<tr>
<th>Name</th>
<th>Purpose</th>
<th>Filename</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Plugin Descriptor</td>
<td>Defines language settings in</td>
<td>atlassian-plugin.xml</td>
<td>./src/etc</td>
</tr>
<tr>
<td></td>
<td>language tag</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ConfluenceActionSupport</td>
<td>Contains text strings in key:value mapping</td>
<td>ConfluenceActionSupport&lt;KEY&gt;.properties</td>
<td>./src/etc/com/atlassian/confluence</td>
</tr>
<tr>
<td>Properties File</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Flag Image

| Contains flag image for country | <KEY>.png | ./src/etc/templates/languages/<KEY> |

**Directory Structure**

The location of the three files that compose a Language Pack plugin is as follows:

```
./src/etc/com/atlassian/confluence/<PATH_OF_PROPERTIES_FILE>
./src/etc/templates/languages/<LANGUAGE_KEY>/<LANGUAGE_KEY>.gif
./src/etc/atlassian-plugin.xml
```

As an example, this is the directory listing of the German translation ("de_DE"):

```
./confluence-2.2-std/plugins/de_DE/src
./confluence-2.2-std/plugins/de_DE/src/etc/atlassian-plugin.xml
./confluence-2.2-std/plugins/de_DE/src/etc/com
./confluence-2.2-std/plugins/de_DE/src/etc/com/atlassian
./confluence-2.2-std/plugins/de_DE/src/etc/com/atlassian/confluence
./confluence-2.2-std/plugins/de_DE/src/etc/com/atlassian/confluence/core
./confluence-2.2-std/plugins/de_DE/src/etc/atlassian/confluence/core/ConfluenceActionSupport_de_DE.properties
```

**Language Plugin Structure**

The three components of a plugin must be updated for each translation. The following sections describe updating the language plugin descriptor, flag image and ConfluenceActionSupport properties file.

**Defining The Language Plugin Descriptor**

This is an example atlassian-plugin.xml file for a Language Pack plugin for German:

```xml
<atlassian-plugin name='German language pack' key='confluence.languages.de_DE'>
  <plugin-info>
    <description>This plugin contains translations for the German language</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com" />
    <version>1.0</version>
  </plugin-info>
  <language name="German" key="de_DE" language="de" country="DE">
    <!-- Define a flag that will be shown for this language -->
    <resource name="de_DE.gif" type="download" location="templates/languages/de_DE/de_DE.gif">
      <property key="content-type" value="image/gif" />
    </resource>
  </language>
</atlassian-plugin>
```

**Language Plugin Descriptor Attributes**

The atlassian-plugin.xml file declares the language being bundled using the following attributes:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>language</td>
<td>The language being defined</td>
<td>Yes</td>
</tr>
<tr>
<td>country</td>
<td>The country the language belongs to</td>
<td>No</td>
</tr>
<tr>
<td>variant</td>
<td>The variant of the language</td>
<td>No</td>
</tr>
</tbody>
</table>

These values are based off those defined in the java.util.Locale class. For information on the valid values for the language, country and variant attributes, please see the java.util.Locale documentation.

The key attribute is an aggregation of the the three previous attributes, in the same format as that of java.util.Locale:
language[.country][.variant]

**Flag Images**
Language packs define a flag that is to be used to represent the language. The \texttt{atlassian-plugin.xml} defines the language property:

\begin{verbatim}
<resource name="en_AU.gif" type="download" location="templates/languages/en_AU/en_AU.gif">
<property key="content-type" value="image/gif"/>
</resource>
\end{verbatim}

When selecting a language, the flag defined above will be displayed. Additionally, the flag will appear during the setup process.

\textbf{ConfluenceActionSupport Properties File}

This Java Properties file contains key-value pairs for each string in Confluence, and supports variables. For example:

\begin{verbatim}
remove.all.name=Remove All
view.mail.thread.desc.full=Entire Thread (Showing \{0\} of \{1\})
\end{verbatim}

\textbf{Creating A New Confluence Translation}

If you would like to translate Confluence into your local language, follow the instructions below on creating a language pack plugin from an example.

The Confluence community is sharing their in-progress and complete translations. You should check that a shared translation to your target language has not already been started here.

\textbf{Preparation}

Start by checking out the technical overview of a Language Pack Plugin. Once you are familiar with the structure and content of a plugin, you can move on to creating your own:

1. Check that you have the latest version of Confluence here. If not, you are recommended to install the latest version for translation, though you can use any version newer than 2.2. Refer to the guide on Upgrading Confluence for instructions.
2. If you do not already have Apache Ant installed, download the latest version and setup your environmental variables according to the manual.
3. If you are using Confluence 2.2.0 only, you will need to unzip the language plugin base files from \texttt{languages.zip} into a subdirectory of \texttt{<CONFLUENCE-INSTALL-DIRECTORY> languages}.

\textbf{Modifying The Example Language Pack Settings}

This example will work from an example plugin \texttt{en_AU.zip}.

1. Unzip the example \texttt{en_AU} language pack \texttt{en_AU.zip} into a subdirectory of \texttt{<CONFLUENCE-INSTALL-DIRECTORY>/languages} called \texttt{en_AU}. Note that the file is just a renamed copy of default English properties file.
2. We will now update the properties file in the example to the latest version. Open your Confluence install directory and copy the\texttt{confluence\WEB-INF\classes\com\atlassian\confluence\core\ConfluenceActionSupport.properties} file to the example plugin directory \texttt{src/etc/com\atlassian\confluence\core}.
4. Locate the plugin descriptor file, ConfluenceActionSupport properties file and flag image.

\begin{verbatim}
<CONFLUENCE-INSTALL-DIRECTORY>/languages/en_AU/src/etc/atlassian-plugin.xml
<CONFLUENCE-INSTALL-DIRECTORY>/languages/en_AU/src/etc/com/atlassian/confluence/core/ConfluenceActionSupport.properties
\end{verbatim}

5. Determine your language plugin key \texttt{<KEY>} using your country and locale according to the Language Pack Plugins guide.
6. Atlassian has licensed a set of flags for use with translations. Delete \texttt{en_AU.png} and download the appropriate flag from Language Pack Flags, renaming it to the correct key.
7. Update \texttt{atlassian-plugin.xml} to contain the relevant \texttt{<KEY>} and other references, including image type. Refer to the first section from the above Language Pack Plugins for help on deciding what to modify.
8. Rename the directory structure and filenames that contain \texttt{en-AU} to your own \texttt{<KEY>}. The directory should now appear as:

\begin{verbatim}
<CONFLUENCE-INSTALL-DIRECTORY>/languages/<KEY>/src/etc/atlassian-plugin.xml
<CONFLUENCE-INSTALL-DIRECTORY>/languages/<KEY>/src/etc/com/atlassian/confluence/core/ConfluenceActionSupport.properties
<CONFLUENCE-INSTALL-DIRECTORY>/languages/<KEY>/src/etc/templates/languages/<KEY>/<KEY>.png
\end{verbatim}

\textbf{You are now ready to build the plugin with the default English text to check that your setup is are correct. These next few steps...}
Given Confluence 3.0 Documentation

deploy the default English version of the pack under your own language

9. From the command line, go to `<CONFLUENCE-INSTALL-DIRECTORY>/languages` and execute

```
    ant -Dlanguage=<KEY> build
```


11. Restart Confluence

12. From your browser, login as an Administrator, then go to Administration -> Language and verify that you are able to select the translation

**Updating The Language Pack**

To collaborate on the translation process, you may wish to upload your translation to the Community Translations page. Repeat these instructions to test each iteration of your translation attempt.

1. Unzip `excelbundle0.9.zip` to your local drive.

2. Browse to your Confluence install and go to the \confluence\WEB-INF\classes\com\atlassian\confluence\core directory. Copy the `ConfluenceActionSupport.properties` file there into the `translation_tool` directory and rename it to `ConfluenceActionSupport_en.properties`.

3. If you want to start a fresh translation, skip this step. To work from an existing translation, copy it into the `translation_tool` directory and remove any country variant from the filename, e.g., `ConfluenceActionSupport_ru_RU.properties` becomes `ConfluenceActionSupport_ru.properties`.

4. Call the translation tool to create the spreadsheet file. For example, to create a Russian translation, open a terminal window in the `translation_tool` directory and call

```
    java -jar excelbundle.jar -export translation_ru.xls -l en,ru -r "%cd%"
```

Edit the file content, referring to Translating ConfluenceActionSupport Content for more information on how to modify the string values.

Call the translation tool to export the updates back into the localised properties file. For the example Russian translation, open a terminal window, go to the `translation_tool` directory and call

```
    java -jar excelbundle.jar -import translation_ru.xls -l ru -r "%cd%"
```

Once you have completed editing, you must copy and rename the localised translation back to the language plugin directory. For frequent updates, you may wish to create a script to do this.

To view the updates after copying across the new properties file, select the language plugin for your translation, then restart Confluence and refresh your browser.

**Building The Language Pack Plugin**

To build the new language pack plugin, execute Ant in the `confluence\src\etc\languages` directory:

```
    ant -Dlanguage=<LANGUAGE> build
```

A JAR will be created in the `languages/<LANGUAGE>/dist/` folder.

**Installation On A Confluence Server**

To install the translation in another instance of Confluence.

1. Copy `languages-<KEY>.jar` into the `<CONFLUENCE-INSTALL-DIRECTORY>/confluence/WEB-INF/lib` of your target installation

2. Restart Confluence

3. From your browser, login as an Administrator, then go to Administration -> Language and select the translation

**Submitting A Translation (Optional)**

If you would like to share your completed translation with other Confluence users, you can upload it here.
By providing Atlassian permission to bundle complete translations with the Confluence install you will soon be able to select your local language from the Confluence translations list under System Administration, without needing to package it as a plugin.

**Language Pack Flags**

Below are flags that can be used with Language Pack Plugins in Confluence. For individual country names, see the attachments list.

These images are only for us within Confluence plugins and may not be redistributed with any other code. For license details, see license.txt
Translating ConfluenceActionSupport Content

Guide for translating the values for each property in a ConfluenceActionSupport_<KEY>.properties file, where <KEY> is the international language identifier:

Translating Strings Without Variables Or Links

These links can be translated directly. Using German in this example

submit.query.name=Submit Query

can be translated directly into

submit.query.name=Anfrage senden

Translating Strings Containing Variables Or Links
Some strings use variables or hyperlinks to provide contextual information. Variables are shown as \{NUMBER\} while hyperlinks are shown as \(<a href="\{NUMBER\}\">LINK ALIAS</a>\). Translations must take into account the positioning of variables, and check that links occur over the relevant phrase. Using German again as an example:

\[
\text{search.include.matches.in.other.spaces=There are } \langle b \rangle \{0\} \text{ matches } \langle b \rangle \text{ in } \langle b \rangle \text{ other spaces} \langle /b \rangle. \langle a href="\{1\}\">\text{Include these matches}\langle /a \rangle.
\]

This tag uses a variable to show the number of matches, and a link the user can click to include those matches. The German version must place the 'matches' variable in the adjusted location, and reapply the hyperlink to the relevant phrase:

\[
\text{search.include.matches.in.other.spaces=Es wurden } \langle b \rangle \{0\} \text{ Resultate } \langle b \rangle \text{ in } \langle b \rangle \text{ anderen Spaces} \langle /b \rangle \text{ gefunden. } \langle a href="\{1\}\">\text{Diese Resultate einschliessen}\langle /a \rangle.
\]

### Translations for the Rich Text Editor

The Rich Text Editor provided by Confluence is TinyMCE. In Confluence version 2.2.10 and above it is possible to provide translations for the tooltips and labels in the Rich Text Editor.

Most of the editor's internationalised text consists of its tooltips. There are also a few labels such as those in the Image Properties dialog. If you are using Confluence in a language other than English, you will want to translate these messages as well as the standard Confluence text.

Confluence fully supports internationalisation of the rich text editor:

- The translations for the rich text editor can be part of a Confluence language pack plugin. The TinyMCE properties can be included in the ConfluenceActionSupport properties file, along with the standard Confluence properties.
- If your language pack does not contain translations for the rich text editor, the text will show in English.

#### Creating a new translation

The core editing strings for the Rich Text Editor translations are found in the `tinymce.properties` file.

Add a new i18n plugin resource to `atlassian-plugin.xml` like this:

```
<resource name="i18n" type="i18n" location="com/atlassian/confluence/tinymceplugin/tinymce"/>
```

Now, put your translations (as described below) in `tinymce_locale.properties` (where locale is the target locale - e.g. de_DE) under the directory `src/main/resources/com/atlassian/confluence/tinymceplugin`.

#### Example

Below is a partial listing of the core TinyMCE properties. The properties consist of 'key=value' pairs. To translate from English to another language, you would replace the text to the right of the '=' sign with the translation.

```
# English
## TinyMCE core
tinymce.bold_desc=Bold (Ctrl+B)
tinymce.italic_desc=Italic (Ctrl+I)
tinymce.underline_desc=Underline (Ctrl+U)
tinymce.striketrough_desc=Strikethrough

## paste plugin
tinymce.paste.paste_text_desc=Paste as Plain Text
tinymce.paste.paste_text_title=Use CTRL+V on your keyboard to paste the text into the window.
tinymce.paste.paste_text_linebreaks=Keep linebreaks
```

#### Updating A Confluence Translation

This guide is for translating Confluence into non-English languages using a Spreadsheet, and covers:

1. Improving or finishing a translation for an existing Language Plugin
2. Updating an existing translation for a new version of Confluence

If you do not have a Language Plugin to deploy the updated ConfluenceActionSupport_<KEY>.properties file (where <KEY> is the international language identifier), you should instead go to the Creating A New Confluence Translation.

To make small updates, it is quicker to translate the file directly. If your changes are more substantial, you may prefer to translate using Excel.

**Translating Directly**

This approach uses any file editor. If your translation uses English characters, you can skip to the next section.

**Preparing Non-Unicode Files For Direct Translation**

If you do not have the Sun Java JDK installed, please download it now. Version 5.0 can be downloaded here.

1. Create a script or batch file that uses the native2ascii.exe program bundled in <JAVA-JDK-DIRECTORY>/bin to convert from the natively encoded file back to the Unicode file. For example, update the Russian properties file with a script or batch file that calls native2ascii -encoding cp1251 JiraWebActionSupport_ru_RU-native.txt JiraWebActionSupport_ru_RU.properties

2. Copy ConfluenceActionSupport<KEY>.properties to a new file ConfluenceActionSupport<KEY>-native.txt. Save the new file local non-Unicode character encoding.

**Performing Direct Translation**

These steps apply to both Unicode and non-Unicode translations:

1. Open the properties file (or it's natively encoded equivalent) for editing, translate some or all of the properties file into your target language, and save the changes. If you are translating into a non-Unicode language, always edit ConfluenceActionSupport<KEY>-native.txt, otherwise modify ConfluenceActionSupport<KEY>.properties.

2. Edit the file content in a text editor, referring to Translating ConfluenceActionSupport Content for more information on how to modify the string values. Users who are unsatisfied with simply opening two copies of the file in their favourite editor may want to try this freeware properties editor, that allows side-by-side comparisons.

3. For non-Unicode translations only, run the native2ascii script to update native2ascii ConfluenceActionSupport<KEY>.properties

4. If you wish to test the update, copy the file back to its original location in the plugin. Then restart Confluence.

**Translating Using A Spreadsheet**

The guide below uses the open-source ExcelBundle, released under the Apache License 2.0. To translate from Excel or OpenOffice:

1. Unzip excelbundle0.9.zip to your local drive.

2. Browse to your Confluence install and go to the \confluence\WEB-INF\classes\com\atlassian\confluence\core directory. Copy the ConfluenceActionSupport.properties file there into the translation_tool directory and rename it to ConfluenceActionSupport_en.properties.

3. If you want to start a fresh translation, skip this step. To work from an existing translation, copy it into the translation_tool directory and remove any country variant from the filename, eg ConfluenceActionSupport_ru_RU.properties becomes ConfluenceActionSupport_ru.properties.

4. Call the translation tool to create the spreadsheet file. For example, to create a Russian translation, open a terminal window in the translation_tool directory and call java -jar excelbundle.jar -export translation_ru.xls -l en,ru -r "%cd%"

5. Edit the file content, referring to Translating ConfluenceActionSupport Content for more information on how to modify the string values.

6. Call the translation tool to export the updates back into the localised properties file. For the example Russian translation, open a terminal window, go to the translation_tool directory and call java -jar excelbundle.jar -import translation_ru.xls -l ru -r "%cd%"

7. Once you have completed editing, you must copy and rename the localised translation back to the language plugin directory. For frequent updates, you may wish to create a script to do this.

8. To view the updates after copying across the new properties file, select the language plugin for your translation, then restart Confluence and refresh your browser.
Lifecycle Plugins

Lifecycle plugin modules are available in Confluence 2.3 and later.

Lifecycle plugins allow you to perform tasks on application startup and shutdown.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins

Application Lifecycle

Startup is performed after Confluence has brought up its Spring and Hibernate subsystems. If Confluence is being set up for the first time, the startup sequence is run after the completion of the setup wizard. This means that lifecycle plugins can assume access to a fully populated Spring container context, and a working database connection. (i.e. you don't need to check isContainerSetup() or isSetupComplete())

Shutdown is performed when the application server is shutting down the web application, but before the Spring context is disposed of.

Plugin Activation and Deactivation

Activating or deactivating a lifecycle plugin will not cause any of its lifecycle methods to be run. If you want your plugin to respond to activation and deactivation, you should make sure it implements Making your Plugin Modules State Aware.

Shutdown is not guaranteed

There are many situations in which the shutdown sequence will not be run, as it is dependent on the orderly shutdown of the application server. Plugins should not rely on shutdown being performed reliably, or even ever.

Shutdown lifecycle tasks are most useful for cleaning up resources or services that would otherwise leak in situations where the web application is being restarted, but the JVM is not exiting. (i.e. services that retain classloaders or threads that would otherwise prevent the application from being garbage-collected)

Defining a Lifecycle Plugin

Lifecycle plugin definitions are quite simple. Here’s a sample atlassian-plugin.xml fragment:

```xml
<lifecycle key="frobozz" name="Probozz Service" class="com.example.frobozz.Lifecycle" sequence="1200">
  <description>Start and stop the Probozz service</description>
</lifecycle>
```

- The key is the required plugin module key, which must be unique within the plugin.
- The name is the required display name for the plugin.
- The class is the required class name for the lifecycle service implementation.
- The sequence number is required, and determines the order in which lifecycle plugins are run. On startup, they are run from lowest to highest sequence number, then in reverse order on shutdown.

Defining a Lifecycle Service Implementation

If you are implementing a new lifecycle service, you should implement com.atlassian.config.lifecycle.LifecycleItem:
However, for convenience, and to make it easy to plug in third-party lifecycle events that are implemented as servlet context listeners, lifecycle service classes can instead implement `javax.servlet.ServletContextListener` – the `contextInitialized()` method will be called on startup, and `contextDestroyed()` on shutdown.

Sequences

The sequence numbers of the lifecycle modules determine the order in which they are run. On startup, modules are run from lowest to highest sequence number, then on shutdown that order is reversed (first in, last out). As a general guideline:

<table>
<thead>
<tr>
<th>Sequence number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 500</td>
<td>Configuration tweaks and application sanity checks.</td>
</tr>
<tr>
<td>800</td>
<td>Database and configuration upgrades.</td>
</tr>
<tr>
<td>5000</td>
<td>Start/stop the Quartz scheduler</td>
</tr>
</tbody>
</table>

- If your startup lifecycle item has a sequence less than 800, you can't assume that the configuration or database schema are current
- If you have a sequence number greater than 5000, you must keep in mind that scheduled jobs (including Job Plugins) may run before you've started up, or after you've shut down.

Macro Plugins

Macros are Confluence code that can be invoked from inside a page by putting the name of the macro in curly brackets. Users of Confluence will be familiar with macros like `{color}` or `{children}` or `{rss}`. Thanks to the plugin system, it is easy to write and install new macros into a Confluence server.

- Created a new macro or looking for macros?
  Share your macros and find new plugins in the Confluence extensions space.

- For Simple Macros
  If you want to create a macro that just inserts some boiler-plate text or performs simple formatting, you may only need a User Macro. User macros can be written entirely from within the Confluence web interface, and require no special installation or programming knowledge.

- Creating a macro for Confluence 3.0?
  Make it look good in the macro browser!

- Looking for a tutorial?
  Try this one

Adding a macro plugin

```java
package com.atlassian.config.lifecycle;

public interface LifecycleItem {

    /**
     * Called on application startup.
     *
     * @param context the application's lifecycle context
     * @throws Exception if something goes wrong during startup. No more startup items will be run, and the application will post a fatal error, shut down all LifecycleItems that have run previously, and die horribly.
     */
    void startup(LifecycleContext context) throws Exception;

    /**
     * Called on application shutdown
     *
     * @param context the application's lifecycle context
     * @throws Exception if something goes wrong during the shutdown process. The remaining shutdown items will still be run, but the lifecycle manager will log the error.
     */
    void shutdown(LifecycleContext context) throws Exception;
}
```
Macros are a kind of Confluence plugin module.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins

**First steps: Creating a very basic plugin**

Make sure you have created your first macro plugin using our description over here. That will save you a lot of time.

**The next step: Understanding a slightly more realistic macro plugin**

The WoW plugin is a fun side-project created by Confluence developer Matthew Jensen. It loads information about World-of-Warcraft from a remote server, renders it on a Confluence page, and uses JavaScript for a nice hover-effect. You should download the source and learn more about it on the WoW Macro explanation page.

**The Macro Plugin Module**

Each macro is a plugin module of type "macro", packaged with whatever Java classes and other resources (i.e. Velocity templates) that the macro requires in order to run. Generally, similar macros are packaged together into a single plugin, for ease of management. Here is an example atlassian-plugin.xml file

```xml
<atlassian-plugin name='Task List Macros' key='confluence.extra.tasklist'>
<plugin-info>
<description>Macros to generate simple task lists</description>
<vendor name='Atlassian Software Systems' url='http://www.atlassian.com'/>
<version>1.3</version>
</plugin-info>

<macro name='tasklist' class='com.atlassian.confluence.extra.tasklist.TaskListMacro' key='tasklist'>
<description>Creates a very simple task list, with user checkable tasks</description>
</macro>

<!-- more macros... -->
</atlassian-plugin>
```

The name of the macro defines how it will be referenced from the page. So if you define your macro as having name="tasklist", the macro will be called from the page as [tasklist].

**The Macro Plugin Module Implementing Class**

The class attribute of the macro defines what Java class will be used to process that macro. This is the class you need to write in order for the macro to function. It must implement the com.atlassian.renderer.v2.macro.Macro interface.

A more complete guide to writing macros can be found in Writing Macros.

**Using a Velocity Template**

To use a Velocity template to provide the output of your macro, see Rendering Velocity templates in a macro.

**Example Macro Plugins**

The source-code of a number of macros (some of which are already built and packaged with Confluence) can be found in the plugins directory of your Confluence distribution. You can modify these macros (consistent with the Confluence license). The most interesting macros to read if you're looking at writing your own are probably:

- tasklist – a simple macro that stores its state in a page's PropertySet
- userlister – a macro that works in combination with an event listener to list logged-in users
- livesearch – a macro that leverages Javascript and XMLHttpRequest in combination with an XWork plugin to handle the server-side interaction.
- graphviz – a macro that interacts with an external, non-Java tool

**RELATED TOPICS**

Plugin Tutorial - Writing Macros for Confluence

**Documenting Macros**

This document is for the notation guide only. Please also see updating macros for the Macro Browser.

The Confluence notation guide is the popup window that describes all the markup and macros available within a Confluence installation. Obviously, if a macro is installed, you will want it to also appear in the notation guide.
To do this you will need to:

1. Write a help file
2. Tell Confluence where to find that help file

Writing the Help File

The help file is a file containing a fragment of HTML. Your HTML will be inserted into a two-columned table, so you should provide a single table row with two columns. On the left-hand side, put usage examples of your macro. On the right hand side provide a description and sample output.

The file will be rendered through Velocity, which means useful things like $req.contextPath are available to you.

Here's an example of the help file used for the {note} macro:

```
<tr bgcolor=ffffff>
  <!-- The left-hand table cell should contain usage examples -->
  <td>  
    {note:title=Be Careful}<br />
    The body of the note here..<br />
    </note>
  </td>
  <!-- The right-hand cell describes the macro and its available arguments -->
  <td>  
    Prints a simple note to the user.
    <ul>
      <li><b>title:</b> - (optional) the title of the note.</li>
      <li><b>icon:</b> - (optional) if "false", don't display the icon.</li>
    </ul>
    The body of the note here.. $req.contextPath/images/icons/emoticons/warning.png
  </td>
</tr>
```

Configuring the help file in your macro

The help file is included in your macro as a plugin resource of type "velocity" and name "help". Here's the plugin definition of the note macro, including its help file:

```
<macro name='note' class='com.atlassian.confluence.extra.information.NoteMacro' key='note'>
  <description>Draws a note (yellow).</description>
  <resource type="velocity" name="help" location="templates/extra/layout/notemacro-help.vm">
    <param name="help-section" value="advanced"/>
  </resource>
</macro>
```

The "help-section" parameter is optional, and determines which section of the notation guide the macro will be documented in. The following sections are available (Note that regular wiki markup is also defined in here, so some sections like 'breaks' are unlikely to be appropriate for any real macro):

- **texteffects**: Macros that change the appearance of text contained within them (e.g. (color))
- **headings**: Macros that create headings within a page
- **breaks**: Macros related to line- or paragraph breaks, or rulers
- **links**: Macros related to links to other wiki or external content (e.g. {anchor})
- **lists**: Macros related to lists
- **images**: Macros for inserting or manipulating images within a page (e.g. {gallery})
- **tables**: Macros for forming static tables (e.g. (section) and (column))
- **advanced**: Macros for creating more complex structures in a page (e.g. (panel) or (info))
Macros for manipulating or displaying Confluence data (e.g. {children})

Macros for manipulating or displaying data from other systems (e.g. {rss})

Macros that do anything else (Try to avoid using this section)

If you don’t provide a help section, your macro documentation will appear in the “Macros” section of the notation guide. (This section only appears in the notation guide if it is needed).

**Updating macros for the Macro Browser**

The Macro Browser is a new feature in Confluence 3.0, helping users to browse and insert macros while adding/editing content. If you are a plugin author, you may want to update your macro so it makes use of the new Macro Browser framework.

**Default macro display**

Even without updating your plugin, macros will be available in the Macro Browser’s ‘All’ category. As demonstrated in the screenshot below, the vote macro is available with its description displayed.

The insert macro screen will then display:

- a single input field for the parameters
- body text field (only if the macro returns true for `hasBody()`)
- notation help for the macro (only if available)

**Updating your macro**

However, you may want to update your macro so it behaves correctly in the macro browser and displays the correct parameter input fields. This will require simple changes to your macro definition in the atlassian-plugin.xml file. All of the bundled macros in Confluence 3.0 have been updated in this way.

**New Macro Descriptor Attributes**

The following are new macro attributes introduced for the macro browser.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>documentation-url</td>
<td>The absolute url to the macro's documentation.</td>
<td></td>
</tr>
</tbody>
</table>
| icon          | The relative url to the application for the macro icon.  
Note: if you have your icon defined as a downloadable resource, you can refer to this by specifying "download/resources/PLUGIN_KEY/RESOURCE_NAME" as the icon attribute. |         |
| hide-body     | This attribute is available for macros that falsely declare that they have body (most likely cause they extend BaseMacro) when they don’t.  
For example the gallery macro. This attribute helps hide the body text field in the macro browser. | false  |
| hidden        | If set to true, the macro is not visible in the macro browser for selection. Plugin authors may want to hide macros that are for their plugin’s internal use and shouldn’t really be used by users. Note that the parameter does not stop people from inserting a macro via the normal editor though. | false  |

**New Macro Elements**

The following are new macro elements introduced for the macro browser. They should be placed inside your `<macro>` element.
<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>category</td>
<td></td>
<td>The category the macro should appear in. Valid categories are listed below.</td>
</tr>
<tr>
<td>alias</td>
<td></td>
<td>Defines an alias for the macro. This means that the macro browser will open for the defined aliases as if it were this macro. For example if <code>dynamictasklist</code> is an alias of <code>tasklist</code>, editing an existing <code>dynamictasklist</code> macro will open it as a <code>tasklist</code> macro.</td>
</tr>
<tr>
<td>parameters</td>
<td>✓</td>
<td>Defines a group of parameter elements. See example below.</td>
</tr>
<tr>
<td>parameter</td>
<td></td>
<td>This defines a single macro parameter. It must be an element of the parameters element. Its contents are described below.</td>
</tr>
</tbody>
</table>

**Macro Categories**

The following categories for macros have been defined (see `MacroCategory.java`). A macro with no category will show up in the default 'All' category.

- formatting
- confluence-content
- visuals
- navigation
- external-content
- communication
- reporting
- admin
- development

**Parameter Options**

Each `<parameter>` element must have the following attributes:

- **name** - A unique name of the parameter, or '' for the default (unnamed) parameter.
- **type** - The type of parameter. Currently the following parameter types are supported in the macro browser's UI:
  - boolean
  - enum
  - string (this is the default if unknown type)

These are optional:

- **required** - whether it is a required parameter, defaults to 'false'
- **multiple** - whether it takes multiple values, defaults to 'false'
- **default** - the default value for the parameter

It can also have the following optional child elements:

- `<alias name="xxx"/>` - alias for the macro parameter
- `<value name="xxx"/>` - describes a single 'enum' value - only applicable for enum typed parameters

**Example**

The following is an example of the Recently Updated Macro defined:
Note that this example contains parameter types which aren’t all supported in the macro browser UI, but may be in future releases.

Macro Icon Example

To provide an icon for your macro -
1) Create a resource for icons/images if you don’t already have one. e.g.

```
<resource key="icons" name="icons/" type="download" location="myplugin/images/icons"/>
```

This must be a top level resource in your atlassian-plugin.xml and must be defined before the macro.

2) Ensure your plugin should contain the resource directory myplugin/images/icons

3) Set the icon attribute on the macro e.g.

```
icon="/download/resources/pluginkey/icons/iconfile.png"
```

i18n Conventions

Instead of having to define i18n keys for each element in the macro definition, the following convention is used to lookup i18n keys for the macro browser.

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>{pluginKey}.{macroName}.label</td>
<td>Macro label/display name</td>
</tr>
<tr>
<td>{pluginKey}.{macroName}.desc</td>
<td>Macro description</td>
</tr>
<tr>
<td>{pluginKey}.{macroName}.param.{paramName}.label</td>
<td>Macro parameter label</td>
</tr>
<tr>
<td>{pluginKey}.{macroName}.param.{paramName}.desc</td>
<td>Macro parameter description</td>
</tr>
<tr>
<td>{pluginKey}.{macroName}.body.label</td>
<td>Macro body label (defaults to ‘Body Text’ if not provided)</td>
</tr>
<tr>
<td>{pluginKey}.{macroName}.body.desc</td>
<td>Macro body description</td>
</tr>
</tbody>
</table>

You will need to place the keys in a .properties file with a resource of type i18n in your plugin.

**User Macros**

User macros allow you to create simple formatting macros using the Confluence web interface.
User Macro Plugins and Macro Plugins

If you want to distribute your user macro as a plugin, please see User Macro Plugins. If you want to create more complex, programmatic macros in Confluence, you may need to write a Macro Plugin. Note also that Macro Plugins and User Macro Plugins can appear in the Confluence Notation Guide, whereas User Macros do not. Here is an example of the Confluence Notation Guide.

You need to have System Administrator permissions in order to create user macros.

On this page:

- Creating a User Macro
- Examples
  - Example 1: User Macro to Create a Red Box
  - Example 2: User Macro to Display "Hello World"
  - Example 3: User Macro to Demonstrate the Use of Parameters
- Available Objects
- User Macro Library

Creating a User Macro

To create a user macro,

1. Go to the 'Administration Console' and click 'User Macros' in the left-hand panel.
2. Click 'Create a User Macro' at the top of the list of macros.
3. Supply the information in the input fields as explained below, then click the 'Save' button.

Screenshot: Creating a User Macro

Input fields:

- 'Macro Name' — Enter the text that you will type, within curly brackets, to invoke the macro from within a page. For example, to invoke the 'floatright' macro defined in the above screenshot, you would type:

```plaintext
{floatright}
```

- 'Macro has a body' — Check this box if you will pass body-text to the macro when you invoke it from within a page, e.g.:
If you select 'Macro has a body', anything the user types within the body of the macro will be available in the macro in the $body variable. The options below allow you to tell Confluence to pre-process the body before it is placed in the macro output:

- **Use unprocessed macro body** — The body of the macro will be output exactly as entered, including any HTML markup. For example if the macro body is `<b>body</b>`, it will be displayed as `<b>body</b>` in the page.
- **Escape HTML in macro body** — The body of the macro will be output with HTML markup escaped. So if the macro body is `<b>body</b>`, it will be displayed as `<b>body</b>` in the page.
- **Convert macro body wiki markup to HTML** — The body of the macro will be converted from wiki text to HTML markup. So if the macro body is `*body*`, it will be displayed as `<span style="color: red">body</span>` in the page.

**'Output'** — Choose one of the following options:

- **'Macro generates HTML markup'** — Choose this if you wish to write your Template in HTML markup (as shown in the above screenshot).
- **'Macro generates wiki markup'** — Choose this if you wish to write your Template in wiki markup.
- **'Template'** — This specifies what the macro will do. Write this using the Velocity templating language. Here is more information on the Velocity project.

Note: If you ticked *Macro has a body*, your template can refer to the body-text by specifying $body.

**Examples**

**Example 1: User Macro to Create a Red Box**

As an example, let's write a simple macro that simply creates a red box (using an existing Confluence style) around some text (useful for writing about error conditions for example - hence the macro name 'error').

After clicking "New User Macro", enter `error` as the Name of your macro, and then put the following in the Template text area:

```html
<div class="errorbox">$body</div>
```

Then click Add. You should now see your new macro in the User Macros library, and you can now enable and disable it individually. To use the macro within a page, you would add notation like:

```
{error}This is bad{error}
```

And your page would (magically!) have an error box on it, like so:

This is bad

**Example 2: User Macro to Display 'Hello World'**

Take a look at an example of a 'Hello World' macro.

**Example 3: User Macro to Demonstrate the Use of Parameters**

This example demonstrates how you can pass parameters into your macro. Let's say you want to write your own font colour macro:

```
<span style="color: $param0">$body</span>
```

The usage of this macro would be:

```
{colour:red}Some example text{colour}
```

which will produce:

Some example text

If your macro requires more than one parameter, you can use variables $param0 to $param9 to represent them. To specify multiple parameters, use:
Where red, blue and green are the 1st, 2nd and 3rd parameters respectively.

Alternatively, you can also use explicitly named parameters in your macro. These macro parameters will appear as variables with the name $param<x>$ where <x> is the name of your parameter. To specify named parameters, use:

```
$param<name>
```

In your user macro you can then use $paramcolour which will have the value red in this case.

### Available Objects

The user macro above uses the $body object, which is available for use within your user macro template if the macro has a body.

You can pass parameters to your user macro in the same way as any other macro, separated by the pipe | sign. These parameters are provided to your template as param1, param2, ... paramN.

The complete list of objects available for use are:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Doc Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>$body</td>
<td>The body of the macro (if the macro has a body)</td>
<td></td>
</tr>
<tr>
<td>$param0-n</td>
<td>The parameters passed to your macro (as available)</td>
<td></td>
</tr>
<tr>
<td>$param&lt;name&gt;</td>
<td>Named parameters passed to your macro (as available)</td>
<td></td>
</tr>
<tr>
<td>$config</td>
<td>The BootstrapManager object, useful for retrieving Confluence properties</td>
<td>BootstrapManager</td>
</tr>
<tr>
<td>$content</td>
<td>The current ContentEntity object that this macro is a included in (if available)</td>
<td>ContentEntityObject</td>
</tr>
<tr>
<td>$space</td>
<td>The Space object that this content object is located in (if relevant)</td>
<td>Space</td>
</tr>
<tr>
<td>$generalUtil</td>
<td>A GeneralUtil object, with useful utility methods for URL encoding etc</td>
<td>GeneralUtil</td>
</tr>
<tr>
<td>$action</td>
<td>A blank ConfluenceActionSupport object, useful for retrieving i18n text if needed</td>
<td>ConfluenceActionSupport</td>
</tr>
<tr>
<td>$webwork</td>
<td>A VelocityWebWorkUtil object, for its htmlEncode() method</td>
<td>VelocityWebWorkUtil</td>
</tr>
<tr>
<td>$req</td>
<td>The current HttpServletRequest object (if the page is rendered as a result of an HTTP request)</td>
<td>HttpServletRequest</td>
</tr>
<tr>
<td>$res</td>
<td>The corresponding HttpServletResponse object (not recommended to be played with)</td>
<td>HttpServletResponse</td>
</tr>
<tr>
<td>$userAccessor</td>
<td>For retrieving users, groups and checking membership</td>
<td>UserAccessor</td>
</tr>
<tr>
<td>$permissionHelper</td>
<td>For determining user rights</td>
<td>PermissionHelper</td>
</tr>
</tbody>
</table>

**Velocity Context in Exporters**

The above context is not inherited by the Velocity context created for PDF or Word exports. To see the available objects in that context, see this page.

Normally, a parameter like $param2 that is missing will appear as "$param2" in the output. To display nothing when a variable is not set, use an exclamation mark after the dollar sign like "$!param2".

You can read more about object usage in the Velocity Template Overview.

### User Macro Library

Below is a list of existing user macros, written by other Confluence users. If you wish, you can install these on your Confluence site.

**Be careful when installing user macros from unknown authors**

- **Popup when over page element** — Allows to create a popup for adding a word definition or anything else
- **Show Page Name as Link** — Shows the page name as a link.
There are two ways to write a macro:

1. **Side Toggle User Macro** — This user macro embeds an expandable table column, which means expandable side bar. It is extended from **Expand Test User Macro**.
2. **Space access** — Shows the users who has access permissions.
3. **umc-link-window css style-able link macro** — Limited alternative to [link-window] supporting css style reference for link that pops up in new window
4. **User Activity** — Display a table of user activity for a space.
5. **Add Tool Tip to Normal Text** — Display tool tip over hovered text.
6. **Automatically label news post** — Automatically labels news post items by the desired label (or labels).
7. **Bookmark Icons** — displays an icon toolbar to link the current page on del.icio.us, Digg and other bookmarking services.
8. **Calling Attention to Page Content** — Sometimes, there is content on your page that you want people to see but you want to reference it elsewhere on your page. The {callattention2} macro makes this an easy 2 step process.
9. **Count pages in space** — Automatically counts the number of pages in the space.
10. **Create link with underline only on hover** — Display underline for link only when hovering.
11. **DailyMotion user macro** — Allows users to easily embed DailyMotion videos within Confluence
12. **Display trackback** — Display all trackbacks of current page.
13. **Drop Shadows User Macro** — Automatically add cross-browser, cross-platform drop-shadows to your panels...
14. **editable user macro**
15. **edit-include user macro** — Creates an seperately editable subsection of a page by implementing (include), (link-to) and (link-page) macros. A user macro workaround.
16. **Escape User Macro**
17. **Expand Text User Macro** — This user macro embeds an expandable text box into your page.
18. **Flash Video user macro** — Allows users to embed flv videos within Confluence
19. **Font Size** — Change the font size
21. **icq-time User macro** — Displays an ICQ user's local time using a groovy animated Flash widget...
22. **include_permissionchecked user macro** — When including a page where user has no permission to view you get an ugly red error hint
23. **Indent User Macro** — Easily indent content
24. **Install Search Engine user macro** — Add a link allowing to install a OpenSearch engine in your browser.
25. **Link to this page name in a different space** — Link to a page of this page's name in a specific space.
26. **Link with colour** — Display a link in a different colour.
27. **MacroDocumentation user macro** — Easily explain your usermacros to your authors how to use with code example and rendered view.
28. **Mailto User Macro** — Renders a block of text as a mailto, using urlencode to convert spaces and newlines properly.
29. **New Window User Macro** — Make links open in a new window
30. **No-Export macro** — A simple user macro to prevent the enclosed text from being exported to PDF, Word of HTML. Particular useful exported manuals or documentation.
31. **no-include User Macro**
32. **nomarkup macro** — Render plain text with no wiki markup notation
33. **Obfuscate email addresses** — Obfuscate email addresses on public pages using javascript
34. **Page Title Style** — Apply custom style to the page title.
35. **Profile Image Macro** — This user macro can be used to insert a user profile image or space logo easily into any Confluence page.
36. **Related Content User Macro** — A simple user macro to automatically generate related content based on the labels on the page. This macro wraps the (content-by-label) macro, pulling the labels directly from the page. If no labels are specified, the macro simply doesn't render anything.
37. **Rich Text Editor in Scaffolding** — Enable the Rich Text Editor in your Scaffolding textareas.
38. **Round Rectangle Macro** — Macro for creating rounded rectangles
39. **Show Page Source Inline Macro** — Display the source code of your page within the page itself. Helpful for showcasing your wiki coding mastery.
40. **Show the content ID (page ID) in a page** — Allows display of the page's Content ID - the unique ID field of the page.
41. **Show-to User Macro** — The show-to-authenticated and show-to-anonymous user macros provide a quick way to show content to only authenticated or anonymous users. **(OBSOLETE)**
42. **Space List Pulldown Menu** — Creates a pulldown menu of spaces based on a given tag
43. **space-permissions user macro** — Creates a summary table for the permissions assigned to the current space.
44. **Spaces listed by label** — List all Spaces (Name and Link) by a defined space label (if exists).
45. **SVG Image Macro**
46. **SVG Image User Macro** — A simple user macro to embed scalable vector graphics in wiki pages. You need to install a browser plugin, such as Adobe, to get it to work.
47. **Team Macro** — create a formatted table of users
48. **Twitter** — shows the latest three twitter posts
49. **Typewriter text effect - User Macro** — This user macro allows you to add a typewriter text effect to your content, adding one letter at a time until the text is fully displayed.
50. **Under construction macro** — Simple macro to warn people a page is being worked on
51. **User Macro Snippets** — Snippets, tools and standards for writing user macros
52. **User Profile Quick Jump Macro** — Allows to quick jump to a user profile based on its id.
53. **Version Macro** — Allows to display the current version of the page.
54. **Video and Audio Embed Macro With Autoplay Disabled**
55. **Word to Confluence Converter**
56. **youtube macro** — Allows users to easily embed YouTube videos within Confluence

**RELATED TOPICS**

**User Macro Plugins**

**Macro Plugins**

**Confluence Plugin Guide**

**Hello World Example of User Macro**

There are two ways to write a macro:
• The first way is to create a **user macro**. You need to be a Confluence Administrator to do this. Below is an example.

### Example of a User Macro

Here’s how you can create a user macro which displays the text 'Hello World : ' in front of any variable text you place between the macro tags.

1. Go to the **Administration Console** and click **User Macros** under **Configuration** in the left-hand panel.
2. Click **Create a User Macro** at the top of the list of macros.
3. Enter the macro attributes as shown in the following screenshot.
4. Click the **Save** button.

- **Macro Name:** helloworld
- **Macro has a body:**
- **Output:** Macro generates HTML markup
- **Template:** Hello World : $body

So, now you can add the following Wiki Markup on your Confluence page:

```
{(helloworld)Matthew{(helloworld)
```

And the result will be as follows:

```
Hello World : Matthew
```

More Information

The macro itself is written in the Velocity Templating Language. You can find more information in the [Velocity User Guide from Apache](http://velocity.apache.org/).

**RELATED TOPICS**

- User Macros
- Macro Plugins
**Wow Macro explanation**

**Skullspliter Helm**

*Birds when equipped*  
Head  
196 Armor  
+12 Stamina  
+11 Agility  
Requires Level 38

Item display is courtesy [www.allakhazam.com](http://www.allakhazam.com).

**Overview**

To flesh out the example macros, and to learn a bit about the process myself, I wrote a macro to insert World of Warcraft item links into any Confluence page. If you're not familiar with World of Warcraft (or WoW for those in-the-know) it's a MMORPG with millions of players world wide. What better way to show off some CSS and JavaScript integration with Confluence!

First a quick overview of what the macro is trying to do. If you've ever played the game or read any of the many WoW community web sites you would be familiar with item links. Each item in WoW has several properties that describe its use, its impossible to memorize the thousands of different items, so these web sites use javascript to add a popup to display item's details. When you move the mouse over the link the popup appears, showing you the details of the item. This example shows a link to the **Skullspliter Helm**.

The macro works by sending a message to Allakhazam's XML interface which is validated and parsed into an object. The Macro then uses a velocity template to generate a small snippet of HTML and with some jQuery JavaScript wizardry, produces a popup.

**The Plugin**

The World of Warcraft plugin consists of two parts: **The Macro**, and **The Web Resources**.

**The Macro**

The heart of any macro is the `execute` method. This method is responsible for returning the result of the macro's function, either in HTML or in WikiMarkup.

This macro goes through a very predictable process:

1. Validate and interpret the parameters
2. Connect to Allakhazam and ask for the item details
3. Use velocity to render the output

For the complete source take a look [here](http://www.allakhazam.com).

**Validate The Input**

We have some very simple requirements for input. We only have one parameter which is the item id. To confirm with what Allakhazam uses, I chose to call this parameter `witem`. I also wanted to allow the user to supply the parameter without a name. The process to do this is described briefly [here](http://www.allakhazam.com).

```
String witemString = (String) params.get("0");
if (witemString == null)
{
    witemString = (String) params.get("witem");
}
if (witemString == null)
{
    return "No witem specified."
}
int witem;
try
{
    witem = Integer.parseInt(witemString);
}
catch (NumberFormatException e)
{
    return "witem specified is not a number: "+witemString;
}
```

This code shows the process to check for the named and unnamed parameters (using the unnamed as preference). The string value is then validated by trying to convert to an integer.

**Connect to Allakhazam**

Now that we have a valid integer, that is hopefully valid item id, we use the `HttpRetrievalService` to send a HTTP request to the Allakhazam website.
For the macro to have access to the `HttpRetrievalService` all we need is a setter method named appropriately. Confluence will call this method at the appropriate time, you can do this to inject any of the Confluence components.

```java
private HttpRetrievalService httpRetrievalService;
public void setHttpRetrievalService(HttpRetrievalService httpRetrievalService)
{
    this.httpRetrievalService = httpRetrievalService;
}
```

The `HttpRetrievalService` takes care of the http connection for us and will time out according to the settings in the Administration section of the Confluence system. The retrieval service will give us an `InputStream` as the result so we need to read that and create an object which we can actually use.

The result from Allakhazam is in XML format, and its usually pretty small. I chose to use a DOM parser process the XML then a series of XPath queries to extract the details we wanted:

```java
HttpResponse response = httpRetrievalService.
    get("http://wow.allakhazam.com/cluster/item-xml.pl?witem=" + witem);
if (response.getStatusCode() != 200)
{
    return "error " + response.getStatusCode() + " loading item";
}
```

Allakhazam's XML format includes item details that match other locales, an extension to this plugin could use this information to provide the popup in the current user's locale!

### Render the Output

This macro uses velocity to render the output. This is helped using the `VelocityUtils` class which provides easy to use methods for accessing the Velocity subsystem.

```java
VelocityContext contextMap = new VelocityContext(MacroUtils.defaultVelocityContext());
contextMap.put(BODY_FIELD, item.getHtml());
contextMap.put(NAME_FIELD, item.getName());
contextMap.put(LINK_FIELD, "http://wow.allakhazam.com/db/item.html?witem=" + witem);
contextMap.put(QUALITY_FIELD, item.getQualityName());
return VelocityUtils.getRenderedTemplate(TEMPLATE_NAME, contextMap);
```

We first create a context map by calling `MacroUtils.defaultVelocityContext()`. This creates a `Map` of some useful components for our template rendering. Creating a context like this is important if you want to access macro's and other components supplied by Confluence. This example then places this map into a `VelocityContext` object to provide type safety on the put methods.

The template used by this macro is extremely simple.
Confluence 3.0 Documentation

The references to $qualityName, $link, $itemName, and $body are resolved by Velocity as the template is processed. They are looked up in the context we supplied in the macro.

The two requireResource calls tell Confluence to include the required resources in the page.

The first call tells Confluence to include jQuery. jQuery is actually available on every Confluence page, but since our macro uses it, we need to make sure Confluence loads jQuery first. We do that by supplying an explicit dependency in the order in which we need it.

These resources are configured in the atlassian-plugin.xml file inside the plugin.

This snippet of the configuration shows the definition of the resources this macro uses. Confluence will use the extension of the name attribute to work out how to link in the resource (ie: link or script tag).

We have two resources, one for the CSS and one for our JavaScript.

Resources

The web resources configured in the previous section contain the CSS formatting and JavaScript behavior of the macro. The CSS file is simple enough and can be seen here. Most of this CSS was taken from the Allakhazam web site then customized to work within Confluence. To do this I added a parent div tag to reduce the scope of the css selectors.

The JavaScript code uses jQuery to provide mouse over and popup functionality over the item link:

First, we a hook into the hover event on any element with the wow-link class. As the mouse enters over the link, the next sibling with the wowitem class will be shown. As the mouse leaves, its hidden. This turns the item information section on and off.

Another hook is added on the mouse move event while the pointer is over the link. This hook is used to move the popup with the mouse pointer.

The Result

You can download this plugin from here and install it through the Administration section of your 2.8.x Confluence instance.

The source is available here.

Compiling the Source

The general details of compiling a plugin applies to this plugin, so follow the instructions there.

For the impatient:

1. Install JDK 1.5 or later
2. Install Maven 2
3. Create a settings.xml file (a good start is this one)
4. Checkout the trunk or a tag of the source
5. use maven to compile it: mvn clean package

Writing Macros

Macros are written and deployed into Confluence as Macro Plugins. This page describes how to write a macro (but not how to get the plugin working, refer to the other page for that).
First steps

Make sure you have created your first macro plugin using our description over here. That will save you a lot of time.

The Macro Class

All macros must implement the `com.atlassian.renderer.v2.macro.Macro` interface. The Javadoc comments are probably the best place to start:


**The BaseMacro class**

While it's not a requirement, your macro should extend the `com.atlassian.renderer.v2.macro.BaseMacro` abstract class. This class does not contain any functionality, but if the `Macro` interface changes in the future, the `BaseMacro` class will be maintained in order to ensure backwards compatibility with existing macros.

Writing Your Macro

When writing a macro, you will need to override the following methods:

<table>
<thead>
<tr>
<th>Method</th>
<th>Should return...</th>
</tr>
</thead>
<tbody>
<tr>
<td>hasBody()</td>
<td>true if this macro expects to have a body, false otherwise</td>
</tr>
<tr>
<td>getBodyRenderMode()</td>
<td>The <code>RenderMode</code> under which the body should be processed before being passed into the macro</td>
</tr>
<tr>
<td>isInLine()</td>
<td>false if the macro produces a block element (like a paragraph, table or div) true if it is inline and should be incorporated into surrounding paragraphs</td>
</tr>
<tr>
<td>execute()</td>
<td>a fragment of HTML that is the rendered macro contents</td>
</tr>
</tbody>
</table>

Understanding `RenderMode`

The `RenderMode` tells the Confluence wiki renderer which wiki-conversion rules should be applied to a piece of text. Once again, the best place to start is the Javadoc:


There are a number of pre-defined render modes. The ones that would be useful to macro writers are probably:

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RenderMode.ALL</td>
<td>Render everything</td>
</tr>
<tr>
<td>RenderMode.NO.Render</td>
<td>Don't render anything; just return the raw wiki text</td>
</tr>
<tr>
<td>RenderMode.INLINE</td>
<td>Render things you'd normally find inside a paragraph, like links, text effects and so on</td>
</tr>
<tr>
<td>RenderMode.SIMPLE_TEXT</td>
<td>Render text made up only of paragraphs, without images or links</td>
</tr>
</tbody>
</table>

If you want finer control, `RenderMode` is implemented as a bit-field. Each constant of `RenderMode` starting with `F_` is a feature of the renderer that can be turned on or off. You can construct a `RenderMode` by manipulating these bits through the following methods:

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>RenderMode.allow()</td>
<td>Allow only the renderings specified</td>
<td>`RenderMode.allow(RenderMode.F_LINKS</td>
</tr>
<tr>
<td>RenderMode.suppress()</td>
<td>Allow all renderings except those specified</td>
<td>`RenderMode.suppress(RenderMode.F_MACROS</td>
</tr>
<tr>
<td>and()</td>
<td>Perform a logical AND on an existing render mode</td>
<td><code>RenderMode.SIMPLE_TEXT.and(RenderMode.suppress(RenderMode.F_PARAGRAPHS) will render SIMPLE_TEXT without paragraphs</code></td>
</tr>
</tbody>
</table>
Many macros (like this note macro) produce a `div`. Often, if there's only one line of text within a `div`, you don't want it surrounded in paragraph tags. For this reason, the `RenderMode.F_FIRST_PARA` flag controls the first line of wiki text that is rendered. If `F_FIRST_PARA` is not set, and the first line of text is a paragraph, the paragraph tags will not be rendered.

How to determine the context your macro is being rendered in

One of the parameters to the `execute()` method, the one with type `RenderContext`, can be used to determine how the macro is being rendered. See the relevant Confluence Developer FAQ entry for the details.

Accessing the Rest of the System

Like all Confluence plugin modules, Macros are autowired by the Spring framework. To obtain a manager object through which you can interact with Confluence itself, all you need to do is provide a Javabeans-style setter method for that component on your `Macro` class. See Accessing Confluence Components From Plugin Modules

Advanced Macro Techniques

Macros are often most powerful when combined with other plugin modules. For example, the `{livesearch}` macro uses an XWork plugin to perform its server-side duties, and the `{userlister}` plugin uses a listener plugin to listen for login events and determine who is online. You may also consider using a component plugin to share common code or state between macros.

How Macros are Processed

If you want to know exactly what happens when a macro is processed, the following (slightly overly-detailed) description should help:

Consider the following code in a Wiki page:

```
{mymacro:blah|width=10|height=20}This _is_ my macro body{mymacro}
```

1. The `MacroRendererComponent` finds the first `{mymacro:blah|width=10|height=20}` tag, and asks the `MacroManager` if a macro is currently active with the name "mymacro". The `MacroManager` returns a singleton instance of your `Macro`.
2. The `MacroRendererComponent` calls `hasBody()` on the `Macro`.
   a. If `hasBody()` returns false, the macro is processed with a 'null' body, and the next (mymacro) tag will be processed as a separate macro.
   b. If `hasBody()` returns true, the `MacroRendererComponent` looks for the closing `{mymacro}`. Anything between the two becomes the macro body.
      i. If there is a macro body, the `MacroRendererComponent` then calls `getRenderMode()` on the macro to determine how that body should be rendered
      ii. The macro body is processed through the wiki renderer with the given RenderMode before being passed to the macro
3. The `MacroRendererComponent` calls `execute` on the macro, passing in the macro parameters, the (processed) body, and the current `RenderMode`
   • The `execute` method should return an HTML string. No further wiki processing is performed on macro output.
   • The parameters are a `Map` of `{{String}}`, keyed by parameter name.
     • If any parameter is not named, it is keyed by the string representation of its position: so for the above example, `parameters.get("0")` would return "blah".
     • `parameters.get(Macro.RAW_PARAMS_KEY)` will return the raw parameter string, in this case: `"blah|width=10|height=20"
4. The `MacroRendererComponent` calls `isInline()` on the macro to determine if its results should be inserted into the surrounding page as an inline (i.e. part of a surrounding paragraph) or a block element.

Module Type Plugins

On this page:

- Purpose of this Module Type
- Configuration
  - Attributes
  - Elements
- Example
- Notes

Purpose of this Module Type

Module Type plugin modules allow you to dynamically add new plugin module types to the plugin framework, generally building on other plugin modules. For example, a plugin developer could create a `<dictionary>` plugin module that is used to feed a dictionary service used by still other plugins.
Configuration

The root element for the Module Type plugin module is `module-type`. It allows the following attributes and child elements for configuration:

Attributes

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td></td>
<td>The ModuleDescriptor class to instantiate when a new plugin module of this type is found.</td>
<td></td>
</tr>
<tr>
<td>disabled</td>
<td></td>
<td>Indicate whether the plugin module should be disabled by default (value='true') or enabled by default (value='false').</td>
<td>false</td>
</tr>
<tr>
<td>i18n-name-key</td>
<td></td>
<td>The localisation key for the human-readable name of the plugin module.</td>
<td></td>
</tr>
<tr>
<td>key</td>
<td>✔</td>
<td>The identifier of the plugin module. This key must be unique within the plugin where it is defined.</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sometimes you will need to uniquely identify a module. Do this with the module complete key. A module with key fred in a plugin with key com.example.modules will have a complete key of com.example.modules:fred, i.e. the identifier of the module type. This value will be used as the XML element name to match.</td>
<td></td>
</tr>
<tr>
<td>name</td>
<td></td>
<td>The human-readable name of the plugin module.</td>
<td></td>
</tr>
<tr>
<td>system</td>
<td></td>
<td>Indicates whether this plugin module is a system plugin module (value='true') or not (value='false'). Only available for non-OSGi plugins.</td>
<td>false</td>
</tr>
</tbody>
</table>

Elements

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td></td>
<td>The description of the plugin module. The 'key' attribute can be specified to declare a localisation key for the value instead of text in the element body.</td>
<td></td>
</tr>
</tbody>
</table>

Example

Here is an example `atlassian-plugin.xml` file containing a plugin module type:

```xml
<atlassian-plugin name="Hello World" key="example.plugin.helloworld" plugins-version="2">
  <plugin-info>
    <description>A dictionary module type test</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
  <module-type key="dictionary" class="example.plugin.DictionaryModuleDescriptor" />
</atlassian-plugin>
```

The Java code for `DictionaryModuleDescriptor` could look like this:

```java
public class DictionaryModuleDescriptor extends AbstractModuleDescriptor<Dictionary> {
  private String language;

  @Override
  public void init(Plugin plugin, Element element) throws PluginParseException {
    super.init(plugin, element);
    language = element.attributeValue("lang");
  }

  public Dictionary getModule() {
    return (Dictionary)((AutowireCapablePlugin)plugin).autowire(getModuleClass());
  }

  public String getLanguage() {
    return language;
  }
}
```
This will add the new module type ‘dictionary’ to the plugin framework, allowing other plugins to use the new module type. Here is a plugin that uses the new ‘dictionary’ module type:

```xml
<atlassian-plugin name="Hello World" key="example.plugin.helloworld" plugins-version="2">
  <plugin-info>
    <description>An english dictionary</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
  <dictionary key="english" class="example.plugin.english.MyDictionary"/>
</atlassian-plugin>
```

Notes

Some information to be aware of when developing or configuring a Module Type plugin module:

- The plugin that defines a new module type cannot use the module type in the Plugin Framework 2.1, but can in 2.2 or later.
- If you want to have control over the construction of the ModuleDescriptor, you can skip the ‘module-type’ module and make public a component registered against the ModuleDescriptorFactory interface:

```xml
<component key="dictionaryFactory" class="example.plugin.DictionaryModuleDescriptorFactory" public="true">
  <interface>com.atlassian.plugin.ModuleDescriptorFactory</interface>
</component>
```

Ensure your ModuleDescriptorFactory implements

```java
com.atlassian.plugin.osgi.external.ListableModuleDescriptorFactory
```

RELATED TOPICS

Writing Confluence Plugins
Installing and Configuring Plugins Manually

Information sourced from Plugin Framework documentation

Path Converter Plugins

Path Converter plugin modules are available in Confluence 2.8 and later versions.

Path Converter plugin modules are useful for developers who are writing Confluence plugins. The Path Converter modules allow you to install custom path mapping as a part of your plugin.

- For more information about plugins in general, read the Confluence Plugin Guide.
- To learn how to install and configure plugins and macros, read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins.

The Path Converter Plugin Module

Each path converter can be used to map a friendly URL to an action either within Confluence or provided by your plugin. Here is an example

```xml
<atlassian-plugin name="Hello World Converter" key="confluence.extra.simpleconverter">
  <plugin-info>
    <description>Example Path Converter</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
  <path-converter weight="10" key="example-converter" class="plugin.ExamplePathConverter"/>
</atlassian-plugin>
```

- The `<atlassian-plugin>` element specifies a class that implements
  `com.atlassian.confluence.servlet.simpledisplay.PathConverter`
- The `<version>` element defines when the path converter is executed in relation to the other converters. See Notes below.
- The `<key>` is the normal plugin module identifier.
Example

This converter is used by Confluence to convert the friendly /display/SpaceKey/PageTitle/ URL format into a request against the correct WebWork action.

```java
public class PagePathConverter implements PathConverter {
    private static final String DISPLAY_PAGE_PATH = "/pages/viewpage.action?spaceKey=${spaceKey}&title=${title}"

    public boolean handles(String simplePath) {
        return new StringTokenizer(simplePath, "/").countTokens() == 2;
    }

    public ConvertedPath getPath(String simplePath) {
        StringTokenizer st = new StringTokenizer(simplePath, "/");
        String spaceKey = st.nextToken();
        String pageTitle = st.nextToken();

        ConvertedPath path = new ConvertedPath(DISPLAY_PAGE_PATH);
        path.addParameter("spaceKey", spaceKey);
        path.addParameter("title", pageTitle);
        return path;
    }
}
```

The `handles` method is called (in order of weight) on each converter and the first to return `true` will have its `getPath` method called. The `getPath` method will convert the friendly path into a `ConvertedPath` object.

The `ConvertedPath` object expects a URL template and a series of parameters. It uses Velocity internally to merge the template and the parameters, producing a final URL.

Notes

The `com.atlassian.confluence.servlet.simpledisplay.SimpleDisplayServlet` will pass each incoming request that starts with `/display` to each of its configured converters. The converters will be checked starting with the converter with the lowest weight.

The PathConverters are autowired at registration time, so add a setter method on your converter to get access to Confluence's components.

```java
public class MyPathConverter implements PathConverter {
    private PageManager pageManager;

    // other methods

    public void setPageManager(PageManager pageManager) {
        this.pageManager = pageManager;
    }
}
```

Core Converters

Confluence includes a series of core path converters that are used to provide friendly URLs for standard Confluence resources.

<table>
<thead>
<tr>
<th>Weight</th>
<th>Core PathConverter</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>com.atlassian.confluence.servlet.simpledisplay.PagePathConverter</td>
</tr>
<tr>
<td>20</td>
<td>com.atlassian.confluence.servlet.simpledisplay.MailPathConverter</td>
</tr>
<tr>
<td>30</td>
<td>com.atlassian.confluence.servlet.simpledisplay.BlogPathConverter</td>
</tr>
<tr>
<td>40</td>
<td>com.atlassian.confluence.servlet.simpledisplay.UserPathConverter</td>
</tr>
<tr>
<td>50</td>
<td>com.atlassian.confluence.servlet.simpledisplay.SpacePathConverter</td>
</tr>
</tbody>
</table>

You can use any weight for your converter. If the same weight is used by multiple converters, they are executed in order of registration.

Renderer Component Plugins

Renderer Component plugin modules are available in Confluence 2.8 and later.
Renderer Component plugins allow you to add additional processors when converting wiki markup to HTML.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins

**Warning**

This document concerns plugging renderer components into Confluence. The implementation of renderer components themselves is not documented.

Renderer component plugins were added to Confluence to make certain development tasks easier inside Atlassian. They are documented here for Atlassian developers, and for the sake of completeness, but we do not recommend customers add their own plugins to this area. The wiki markup rendering process is quite fragile, and simple changes can have wide-reaching effects.

In other words, you're on your own here.

**Defining a Renderer Component Plugin**

Here's a sample atlassian-plugin.xml fragment:

```xml
<renderer-component key="foo" name="Foo Renderer" class="com.example.frobozz.FooRendererComponent" weight="1000">
  <description>Convert foo markup to HTML</description>
</renderer-component>
```

- **The key** is the required plugin module key, which must be unique within the plugin.
- **The name** is the required display name for the plugin.
- **The class** is the required class name for the renderer component implementation.
- **The weight** number is required, and determines the order in which renderer component plugins are run over the wiki markup. Components are run from lowest to highest weights

**Implementing a Renderer Component Plugin**

The class referred to by the module descriptor must implement one of the following interfaces:

- `com.atlassian.renderer.v2.components.RendererComponent`
- `com.atlassian.renderer.v2.plugin.RendererComponentFactory`

This allows you to provide either a component directly, or a factory that can be used to instantiate more complex components. If you are using a factory, you can provide arbitrary parameters that will be passed to the factory when the component is instantiated:

```xml
<renderer-component key="foo" name="Foo Renderer" class="com.example.frobozz.FooRendererComponentFactory" weight="1000">
  <param name="animal">monkey</param>
  <param name="vegetable">lettuce</param>
  <param name="mineral">quartz</param>
</renderer-component>
```

These parameters will be passed into the factory's instantiate method as a Map<String, String>.

**RPC Plugins**

**Availability**

RPC plugin modules are implemented in Confluence 1.4 and later.

RPC plugins allow you to deploy arbitrary SOAP or XML-RPC services within Confluence. These services may be completely independent of Confluence, or may take advantage of the Confluence APIs to provide a remote, programmatic interface to the Confluence server. Confluence's packaged remote API is implemented entirely as a plugin.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins
- The Remote API packaged with Confluence is documented at Remote API Specification

**XML-RPC Plugins**

Here is an example atlassian-plugin.xml file containing a single XML-RPC service:
the **class** attribute defines the class that will be servicing XML-RPC requests. One instance of this class will be instantiated, and all of its public methods will be made available remotely. The instance is autowired from the Spring context.

- the **service-path** attribute is the method-prefix that is used to determine which XML-RPC method calls are routed to this plugin.

Confluence listens for XML-RPC requests at a single end-point. If your server is deployed at `http://www.example.com` then all XML-RPC requests must be made to `http://www.example.com/rpc/xmlrpc`. As such, the service-path is used to distinguish which plugin each request is directed at. If your RPC implementing class has a method `provideGreeting()`, and a service-prefix of `helloworld`, then the XML-RPC method call will be `helloworld.provideGreeting()`.

### XML-RPC Interfaces

The XML-RPC specification is more limited than Java code. In particular:

- all method parameters in the class you have deployed must take as arguments, and return as values only the "XML-RPC-friendly types" listed below.
- `null` is not a valid XML-RPC type, so you must never send `null` as an argument, or return `null` as a value.
- `void` is not a valid XML-RPC return type, so all methods exposed via XML-RPC must return some value.

Valid types for use as arguments in methods exposed via XML-RPC, or as return values from XML-RPC methods are:

- `int`
- `boolean`
- `java.lang.String`
- `double`
- `java.util.Date`
- `java.util.Hashtable`
- `java.util.Vector`
- `byte[]`

The object wrappers for the primitive types (`java.lang.Integer`, `java.lang.Boolean`, etc) may be used as return values, but not as method arguments. For more information, see: `http://ws.apache.org/xmlrpc/types.html`

### SOAP Plugins

Here is an example `atlassian-plugin.xml` file containing a single SOAP service:

- the **class** attribute defines the class that will be servicing SOAP requests. One instance of this class is instantiated and autowired from the Spring context.
- the **service-path** element defines the SOAP service-path for this plugin, and where its WSDL file will be located.
- the **published-interface** element defines a Java interface that will be exposed via the SOAP service. The class defined in the **class** attribute must implement this interface.

Confluence listens for SOAP requests at a single end-point. If your server is deployed at `http://www.example.com` then all XML-RPC requests must be made to `http://www.example.com/rpc/soap`. The preferred method for calling a SOAP service on Confluence is by parsing the WSDL file that is generated automatically for any deployed SOAP plugin. If your plugin has a service-path of `helloworld`, its WSDL file will be available at `http://www.example.com/rpc/soap/helloworld.wsdl`
Unlike XML-RPC, SOAP can accept and return complex types.

**RPC Authentication**

Confluence supplies a very simple, token-based authentication service for its remote API. Users log in over the remote interface using a `login(username, password)` method, and are supplied with a String token. This String token is then supplied as the first argument of any subsequent remote call, to authenticate the user with their previous login. More information about this protocol can be found in the Remote API Specification documentation.

Any RPC plugin can take advantage of the authentication service. To do so you must make some changes to your remote service objects, and to the configuration.

Here is an `atlassian-plugin.xml` containing SOAP and XML-RPC services that require authentication:

```xml
<atlassian-plugin name="Sample XML-RPC" key="confluence.extra.xmlrpc">
  ...
  <rpc-xmlrpc key="helloworldsecure-xmlrpc" name="Secure Hello World XML-RPC">
    <description>An example XML-RPC service that requires a login</description>
    <service-name>helloworldPublic</service-name>
    <service-path>helloworld-secure</service-path>
    <authenticate>true</authenticate>
  </rpc-xmlrpc>
  ...
</atlassian-plugin>
```

An authenticated XML-RPC service requires an additional `published-interface` element that behaves like the `published-interface` element in the SOAP plugin: you must supply a Java Interface to represent which methods of your plugin class are being exposed remotely. The class represented by the `class` attribute must implement this interface.

There are two changes you have to make to your remote service objects (and their published interfaces) to allow them to take advantage of authentication:

1. You must implement the `String login(String username, String password)` and `boolean logout(String token)` methods in `com.atlassian.confluence.rpc.SecureRpc`. However, since these methods will be intercepted by the Confluence RPC framework, they will never actually be called on your object. As such, you can leave the implementations empty.
2. All methods in your published interface must have an initial argument that is a String (the authentication token). This token will also be intercepted by the Confluence RPC framework. Your code must not rely on this token having any value by the time the method is called on your plugin.

If you are providing an authenticated service, the logged-in User will be available to you from `com.atlassian.confluence.user.AuthenticatedUserThreadLocal.getUser()`

If anonymous RPC is enabled for your server, the logged-in user may be `null`.

**Hibernate Session**

If you use the Confluence API within your plugin you will probably need to create a Hibernate session, and start a transaction. Getting an error like `net.sf.hibernate.HibernateException: Could not initialize proxy - the owning Session was closed` is one indication.

Using the HelloWorld example above:

The class which implements your service needs to delegate each call to another object, which will be supplied when the HelloWorld instance is autowired.
HelloWorldDelegator contains the actual implementation of your service. It implements the same interface as HelloWorld, i.e. HelloWorldPublic. It is declared as a Spring bean, wrapped in a transaction:

```java
class HelloWorld implements HelloWorldPublic
{
    private HelloWorldDelegator helloWorldDelegator;

    public int doSomething(String arg)
    {
        return helloWorldDelegator.doSomething(arg);
    }

    public void setHelloWorldDelegator(HelloWorldHandler helloWorldDelegator)
    {
        this.helloWorldDelegator = helloWorldDelegator;
    }
}
```

Example

Example XML-RPC and SOAP plugins are available in the Confluence distribution under plugins/helloworldrpc. It can also be found [here](http://example.com).

The full source to the Confluence remote API plugin can be found in the Confluence distribution under plugins/confluencerpc. The Confluence Remote API uses a mixture of RPC plugins and Component Plugins, along with a simple mechanism to serialize Java objects into an XML-RPC compatible struct, to serve the same API over both SOAP and XML-RPC. We strongly recommend you use a similar mechanism to provide both RPC APIs.

Servlet Context Listener Plugins

On this page:
- Purpose of this Module Type
- Configuration
  - Attributes
  - Elements
- Example
- Notes

Purpose of this Module Type

Servlet Context Listener plugin modules allow you to deploy Java Servlet context listeners as a part of your plugin. This helps you to integrate easily with frameworks that use context listeners for initialisation.

Configuration

The root element for the Servlet Context Listener plugin module is `servlet-context-listener`. It allows the following attributes and child elements for configuration:

Attributes
### Name Required Description Default

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td>✓</td>
<td>The class which implements this plugin module. The class you need to provide depends on the module type. For example, Confluence theme, layout and colour-scheme modules can use classes already provided in Confluence. So you can write a theme-plugin without any Java code. But for macro and listener modules you need to write your own implementing class and include it in your plugin. The servlet context listener Java class. Must implement javax.servlet.ServletContextListener.</td>
<td></td>
</tr>
</tbody>
</table>

| disabled | ✓        | Indicate whether the plugin module should be disabled by default (value='true') or enabled by default (value='false'). | false   |

| i18n-name-key | ✓        | The localisation key for the human-readable name of the plugin module. |         |

| key | ✓        | The identifier of the plugin module. This key must be unique within the plugin where it is defined. Sometimes you will need to uniquely identify a module. Do this with the module complete key. A module with key fred in a plugin with key com.example.modules will have a complete key of com.example.modules:fred.i.e. the identifier of the context listener. | N/A     |

| name | ✓        | The human-readable name of the plugin module. i.e. the human-readable name of the listener. | true    |

| system | ✓        | Indicates whether this plugin module is a system plugin module (value='true') or not (value='false'). Only available for non-OSGi plugins. | false   |

### Elements

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td>✓</td>
<td>The description of the plugin module. The 'key' attribute can be specified to declare a localisation key for the value instead of text in the element body. I.e. the description of the listener.</td>
<td></td>
</tr>
</tbody>
</table>

### Example

Here is an example atlassian-plugin.xml file containing a single servlet context listener:

```xml
<atlassian-plugin name="Hello World Listener" key="example.plugin.helloworld" plugins-version="2">
  <plugin-info>
    <description>A basic Servlet context listener module test - says "Hello World!"</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
  <servlet-context-listener name="Hello World Listener" key="helloWorld" class="com.example.myplugins.helloworld.HelloWorldListener">
    <description>Initialises the Hello World plugin.</description>
  </servlet-context-listener>
</atlassian-plugin>
```

### Notes

Some information to be aware of when developing or configuring a Servlet Context Listener plugin module:

- The servlet context you listen for will not be created on web application startup. Instead, it will be created the first time a servlet or filter in your plugin is accessed after each time it is enabled, triggering a new instance of your listener followed by the calling of the listener's contextCreated() method. This means that if you disable a plugin containing a listener and re-enable it again, the following will happen:
  1. The contextDestroyed() method will be called on your listener after the plugin was disabled.
  2. A new servlet context will be created after the plugin was re-enabled.
  3. Your listener will be instantiated.
  4. The method contextCreated() on your listener will be called.
 Purpose of this Module Type

Servlet Context Parameter plugin modules allow you to set parameters in the Java Servlet context shared by your plugin's servlets, filters, and listeners.

 Configuration

The root element for the Servlet Context Parameter plugin module is `servlet-context-param`. It allows the following attributes and child elements for configuration:

 Attributes

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td></td>
<td>The class which implements this plugin module. The class you need to provide depends on the module type. For example, Confluence theme, layout and colour-scheme modules can use classes already provided in Confluence. So you can write a theme-plugin without any Java code. But for macro and listener modules you need to write your own implementing class and include it in your plugin.</td>
<td></td>
</tr>
<tr>
<td>disabled</td>
<td></td>
<td>Indicate whether the plugin module should be disabled by default (value='true') or enabled by default (value='false').</td>
<td>false</td>
</tr>
<tr>
<td>i18n-name-key</td>
<td></td>
<td>The localisation key for the human-readable name of the plugin module.</td>
<td></td>
</tr>
<tr>
<td>key</td>
<td></td>
<td>The identifier of the plugin module. This key must be unique within the plugin where it is defined. A module with key fred in a plugin with key com.example.modules will have a complete key of com.example.modules:fred. I.e. The identifier of the context parameter.</td>
<td>N/A</td>
</tr>
<tr>
<td>name</td>
<td></td>
<td>The human-readable name of the plugin module. i.e. The human-readable name of the context parameter.</td>
<td></td>
</tr>
<tr>
<td>system</td>
<td></td>
<td>Indicates whether this plugin module is a system plugin module (value='true') or not (value='false'). Only available for non-OSGi plugins.</td>
<td>false</td>
</tr>
</tbody>
</table>

 Elements

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td></td>
<td>The description of the plugin module. The 'key' attribute can be specified to declare a localisation key for the value instead of text in the element body. i.e. the description of the listener.</td>
<td></td>
</tr>
<tr>
<td>param-name</td>
<td></td>
<td>The servlet context parameter name.</td>
<td>N/A</td>
</tr>
<tr>
<td>param-value</td>
<td></td>
<td>The servlet context parameter value.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

 Example

Here is an example `atlassian-plugin.xml` file containing a single servlet context parameter:

```xml
<atlassian-plugin name="Hello World" key="example.plugin.helloworld" plugins-version="2">
  <plugin-info>
    <description>A basic Servlet context parameter module test</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
  <servlet-context-param key="helloWorld">
    <description>Sets the Hello World text.</description>
    <param-name>text</param-name>
    <param-value>Hello World!</param-value>
  </servlet-context-param>
</atlassian-plugin>
```

 Notes
Some information to be aware of when developing or configuring a Servlet Context Parameter plugin module:

- This parameter will only be available to servlets, filters, and context listeners within your plugin.

RELATED TOPICS

Writing Confluence Plugins
Installing and Configuring Plugins Manually

Information sourced from Plugin Framework documentation

Servlet Filter Plugins

On this page:

- Purpose of this Module Type
- Configuration
  - Attributes
  - Elements
- Example
- Accessing your Servlet Filter
- Notes

Purpose of this Module Type

Servlet Filter plugin modules allow you to deploy Java Servlet filters as a part of your plugin, specifying the location and ordering of your filter. This allows you to build filters that can tackle tasks like profiling and monitoring as well as content generation.

Configuration

The root element for the Servlet Filter plugin module is `<servlet-filter>`. It allows the following attributes and child elements for configuration:

Attributes

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td></td>
<td>The class which implements this plugin module. The class you need to provide depends on the module type. For example, Confluence theme, layout and colour-scheme modules can use classes already provided in Confluence. So you can write a theme-plugin without any Java code. But for macro and listener modules you need to write your own implementing class and include it in your plugin. The servlet filter Java class must implement javax.servlet.Filter.</td>
<td>N/A</td>
</tr>
<tr>
<td>disabled</td>
<td></td>
<td>Indicate whether the plugin module should be disabled by default (value='true') or enabled by default (value='false').</td>
<td>false</td>
</tr>
<tr>
<td>i18n-name-key</td>
<td></td>
<td>The localisation key for the human-readable name of the plugin module.</td>
<td>N/A</td>
</tr>
<tr>
<td>key</td>
<td>✓</td>
<td>The identifier of the plugin module. This key must be unique within the plugin where it is defined.</td>
<td>N/A</td>
</tr>
<tr>
<td>location</td>
<td></td>
<td>The position of the filter in the application's filter chain. If two plugins provide filters at the same position, the 'weight' attribute (see below) is evaluated.</td>
<td>before-dispatch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• after-encoding - Near the very top of the filter chain in the application, but after any filters which ensure the integrity of the request.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• before-login - Before the filter that logs in the user with any authentication information included in the request.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• before-decoration - Before the filter which does decoration of the response, typically with Sitemesh.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• before-dispatch - At the end of the filter chain, before any servlet or filter which handles the request by default.</td>
<td></td>
</tr>
<tr>
<td>name</td>
<td></td>
<td>The human-readable name of the plugin module. i.e. the human-readable name of the filter.</td>
<td>The plugin key</td>
</tr>
<tr>
<td>system</td>
<td></td>
<td>Indicates whether this plugin module is a system plugin module (value='true') or not (value='false'). Only available for non-OSGi plugins.</td>
<td>false</td>
</tr>
</tbody>
</table>
weight
The weight of the filter, used to decide which order to place the filter in the chain for filters which have specified the same 'location' attribute (see above). The higher weight, the lower the filter's position.

Elements

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td></td>
<td>The description of the plugin module. The 'key' attribute can be specified to declare a localisation key for the value instead of text in the element body. I.e. the description of the filter.</td>
<td></td>
</tr>
<tr>
<td>init-param</td>
<td></td>
<td>Initialisation parameters for the filter, specified using param-name and param-value sub-elements, just as in web.xml. This element and its child elements may be repeated.</td>
<td>N/A</td>
</tr>
<tr>
<td>resource</td>
<td></td>
<td>A resource for this plugin module. This element may be repeated. A 'resource' is a non-Java file that a plugin may need in order to operate. Refer to Adding Plugin and Module Resources for details on defining a resource.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
| url-pattern|          | The pattern of the URL to match. This element may be repeated. The URL pattern format is used in Atlassian plugin types to map them to URLs. On the whole, the pattern rules are consistent with those defined in the Servlet 2.3 API. The following wildcards are supported:  
  *  matches zero or many characters, including directory slashes  
  ?  matches zero or one character  
  Examples  
  /mydir/* matches /mydir/myfile.xml  
  */admin/*/??ml matches /mydir/otherdir/admin/myfile.html | N/A     |

Example

Here is an example atlassian-plugin.xml file containing a single servlet filter:

```xml
<atlassian-plugin name="Hello World Filter" key="example.plugin.helloworld" plugins-version="2">
  <plugin-info>
    <description>A basic Servlet filter module test - says "Hello World!"</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
  <servlet-filter name="Hello World Servlet" key="helloWorld" class="com.example.myplugins.helloworld.HelloWorldFilter" location="before-dispatch" weight="200">
    <description>Says Hello World, Australia or your name.</description>
    <url-pattern>helloworld</url-pattern>
    <init-param>
      <param-name>defaultName</param-name>
      <param-value>Australia</param-value>
    </init-param>
  </servlet-filter>
</atlassian-plugin>
```

Accessing your Servlet Filter

Your servlet will be accessible within the Atlassian web application via each url-pattern you specify, but unlike the Servlet Plugin Module, the url-pattern is relative to the root of the web application.

For example, if you specify a url-pattern of /helloworld as above, and your Atlassian application was deployed at http://yourserver/jira — then your servlet filter would be accessed at http://yourserver/jira/helloworld.

Notes

Some information to be aware of when developing or configuring a Servlet Filter plugin module:

- Your servlet filter's init() method will not be called on web application startup, as for a normal filter. Instead, this method will be called the first time your filter is accessed after each time it is enabled. This means that if you disable a plugin containing a filter or a single servlet filter module, and re-enable it again, the filter will be re-created and its init() method will be called again.
- Because servlet filters are deployed beneath root, be careful when choosing each url-pattern under which your filter is deployed. If you plan to handle the request in the filter, it is recommended to use a value that will always be unique to the world!

RELATED TOPICS
Servlet Plugins

On this page:
- Purpose of this Module Type
- Configuration
  - Attributes
  - Elements
- Example
- Accessing your Servlet
- Notes

Purpose of this Module Type

Servlet plugin modules enable you to deploy Java servlets as a part of your plugins.

Configuration

The root element for the Servlet plugin module is `<servlet>`. It allows the following attributes and child elements for configuration:

Attributes

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td></td>
<td>The servlet Java class. Must be a subclass of <code>javax.servlet.http.HttpServlet</code>.</td>
<td></td>
</tr>
<tr>
<td>disabled</td>
<td></td>
<td>Indicate whether the plugin module should be disabled by default (value='true') or enabled by default (value='false').</td>
<td>false</td>
</tr>
<tr>
<td>i18n-name-key</td>
<td></td>
<td>The localisation key for the human-readable name of the plugin module.</td>
<td></td>
</tr>
<tr>
<td>key</td>
<td></td>
<td>The identifier of the plugin module. This key must be unique within the plugin where it is defined.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="https://example.com/tip" alt="Tip" /> Sometimes you will need to uniquely identify a module. Do this with the module complete key. A module with key <code>fred</code> in a plugin with key <code>com.example.modules</code> will have a complete key of <code>com.example.modules:fred</code>. i.e. the identifier of the servlet.</td>
<td></td>
</tr>
<tr>
<td>name</td>
<td></td>
<td>The human-readable name of the plugin module. i.e. the human-readable name of the servlet.</td>
<td>The plugin key.</td>
</tr>
<tr>
<td>system</td>
<td></td>
<td>Indicates whether this plugin module is a system plugin module (value='true') or not (value='false'). Only available for non-OSGi plugins.</td>
<td>false</td>
</tr>
</tbody>
</table>

Elements

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td></td>
<td>The description of the plugin module. The 'key' attribute can be specified to declare a localisation key for the value instead of text in the element body. i.e. the description of the servlet.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>init-param</td>
<td></td>
<td>Initialisation parameters for the servlet, specified using <code>param-name</code> and <code>param-value</code> sub-elements, just as in web.xml. This element and its child elements may be repeated.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>resource</td>
<td></td>
<td>A resource for this plugin module. This element may be repeated. A 'resource' is a non-Java file that a plugin may need in order to operate. Refer to Adding Plugin and Module Resources for details on defining a resource.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>url-pattern</td>
<td></td>
<td>The pattern of the URL to match. This element may be repeated. The URL pattern format is used in Atlassian plugin types to map them to URLs. On the whole, the pattern rules are consistent with those defined in the Servlet 2.3 API. The following wildcards are supported:</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* matches zero or many characters, including directory slashes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>? matches zero or one character</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Examples</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>*/mydir/*</code> matches <code>/mydir/myfile.xml</code></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>/*/admin/*.*?ml</code> matches <code>/mydir/otherdir/admin/myfile.html</code></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Example

Here is an example `atlassian-plugin.xml` file containing a single servlet:

```xml
<atlassian-plugin name="Hello World Servlet" key="example.plugin.helloworld" plugins-version="2">
  <plugin-info>
    <description>A basic Servlet module test - says "Hello World!"</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
  <servlet name="Hello World Servlet" key="helloWorld"
    class="com.example.myplugins.helloworld.HelloWorldServlet">
    <description>Says Hello World, Australia or your name.</description>
    <url-pattern>/helloworld</url-pattern>
    <init-param>
      <param-name>defaultName</param-name>
      <param-value>Australia</param-value>
    </init-param>
  </servlet>
</atlassian-plugin>
```

Accessing your Servlet

Your servlet will be accessible within the Atlassian web application via each `url-pattern` you specify, beneath the `/plugins/servlet` parent path.

For example, if you specify a `url-pattern` of `/helloworld` as above, and your Atlassian application was deployed at `http://yourserver/jira` — then your servlet would be accessed at `http://yourserver/jira/plugins/servlet/helloworld`.

Notes

Some information to be aware of when developing or configuring a Servlet plugin module:

- Your servlet's `init()` method will not be called on web application startup, as for a normal servlet. Instead, this method will be called the first time your servlet is accessed after each time it is enabled. This means that if you disable a plugin containing a servlet, or a single servlet module, and re-enable it again, the servlet is re-instantiated and its `init()` method will be called again.
- Because all servlet modules are deployed beneath a common `/plugins/servlet` root, be careful when choosing each `url-pattern` under which your servlet is deployed. It is recommended to use a value that will always be unique to the world!

RELATED TOPICS

Writing Confluence Plugins
Installing and Configuring Plugins Manually

Information sourced from Plugin Framework documentation

Spring Component Plugins - Old Style

This is an outdated module type

The Spring Component plugin module described below belongs to the first version of the Atlassian Plugin Framework. A new Component plugin module is available to OSGi-based plugins using version 2.x of the Atlassian Plugin Framework, supported in Confluence 2.10 and later.

On this page:

- Old-Style Plugin Module Type
- Purpose of this Module Type
- Ordering of Components

Old-Style Plugin Module Type

We recommend that you use the new plugin module type, rather than the old-style Spring Component described below. Confluence still supports the earlier module type, but the new OSGi-based plugin framework fixes a number of bugs and limitations experienced by the old-style plugin modules.

Purpose of this Module Type

A Spring module allows you to use standard Spring XML configuration tags.

A Spring module appears in `atlassian-plugin.xml` like this:
The above is equivalent to the following configuration in `applicationContext.xml`:

```xml
<spring name="Space Cleaner Job" key="spaceCleanerJob" class="org.springframework.scheduling.quartz.JobDetailBean">
  ...
  any standard spring configuration goes here...
</spring>

Ordering of Components

If you declare a Spring component that refers to another Spring component, you must ensure the referred component is declared first. For example:

```xml
<spring name="Bean A" key="beanA" class="org.springframework.transaction.interceptor.TransactionProxyFactoryBean">
  ...
</spring>

<spring name="Bean B" key="beanB" alias="soapServiceDelegator" class="org.springframework.aop.framework.ProxyFactoryBean">
  <property name="target">
    <ref local="beanA"/>
  </property>
  ...
</spring>
```

Notice that `beanB` refers to `beanA` and that `beanA` is declared before `beanB`. If you don't do it in this order, Confluence will complain that `beanA` does not exist.

RELATED TOPICS

Component Plugins
Writing Confluence Plugins
Installing and Configuring Plugins Manually

Theme Plugins

Themes define a look and feel for Confluence. Confluence ships with several themes that you can use, such as the default theme and or the left-nav theme. Theme plugins, on the other hand, allow you to create your totally customized look and feel. A theme can be applied to an entire Confluence site or to individual spaces.

Stylesheet themes

Creating a theme which only relies on stylesheets and images is much simpler than customising HTML, and more likely to work in future versions of Confluence.

- Creating a Stylesheet Theme

Custom HTML themes

Creating a new theme with custom HTML consists of two steps:

1. Creating a theme with decorators and colour schemes, which defines how each page looks.
2. Packaging and installing a Theme Plugin - themes are part of our plugin system.

Installing your theme

To install it within Confluence, please read Installing and Configuring Plugins Manually.

Example themes

There are several other themes that you can use as examples to learn from and extend.

Stylesheet themes:

- Easy Blue Theme

Custom HTML themes:

- Clickr Theme
Creating a Stylesheet Theme

To create a stylesheet theme, you need to first create your custom stylesheet for Confluence. You can do this using many CSS editing tools. See Styling Confluence with CSS for more information.

Once you have a stylesheet (and optionally images) ready, this guide will show you how to package up your stylesheet for use in Confluence as a theme.

Quick demonstration

The quick demonstration is the Easy Blue theme, which you can download here:

- easy-blue-theme-1.1.jar

You can quickly customise this theme by using a ZIP extractor program (like WinZip, 7-Zip, etc.) to extract the files, change them, then zip it back up into a JAR file and install it in Confluence.

⚠️ Since this theme was developed as a quick stylesheet demonstration for Confluence, it only has limited browser support. See Easy Blue Stylesheet for information about which browsers are supported.

The remainder of this document is a walk-through which describes in detail how to create a theme like this from scratch.

Creating the descriptor file

Each theme plugin needs a plugin descriptor file, called `atlassian-plugin.xml`. For themes with a single stylesheet, the file is very simple. Below is an example with one stylesheet.

**Theme `atlassian-plugin.xml` with one stylesheet**

```xml
<atlassian-plugin
    name="Simple Demo Theme" key="com.example.acme.simple">
  <plugin-info>
    <description>A Confluence stylesheet theme.</description>
    <vendor name="Acme Software Pty Ltd" url="http://acme.example.com"/>
    <version>1.0</version>
  </plugin-info>
  <theme
    key="simple-theme" name="Simple Demo Theme"
    class="com.atlassian.confluence.themes.BasicTheme">
    <!-- CSS -->
    <resource
      type="download" name="demo-theme.css" location="demo-theme.css"/>
    <param
      name="includeClassicStyles" value="false"/>
  </theme>
</atlassian-plugin>
```

To create your new theme from scratch:

- Copy the above XML into a new text file
- Customise the key, name and vendor of your theme throughout the file
- In the `<resource>` tag, put the name of your stylesheet in both the `name` and the `location` attributes
- Save the customised XML file as `atlassian-plugin.xml` in a new directory with your stylesheet.

Packaging the theme

The theme files need to be put into a JAR file. A JAR file is essentially a ZIP file with a `.jar` extension, so you can create it with whatever tool you like.

To use the command-line tool, `jar`, which ships with the Java Development Kit, you can run the following command in the directory with your files:

```
jar cf my-awesome-theme-1.0.jar *.xml *.css *.gif *.png
```

This will wrap up the `atlassian-plugin.xml` file with whatever images and CSS files you have in your directory. Now you can upload the plugin into Confluence.
Now you're done! If your theme is working great now, then you're finished. There might be a few more things you need to know, however. The later sections cover these details about further customisation of your stylesheet theme.

Including the default stylesheet

Most themes that you write for Confluence will actually rely on the default theme stylesheets in Confluence. This includes the standard Confluence fonts, colours, and many other things. To include the Confluence styles in your theme, the `<theme>` tag in your plugin needs to include Confluence's default stylesheet as a resource:

```
<theme>
  <resource type="download" name="default-theme.css" location="/includes/css/default-theme.css"/>
  <param name="includeClassicStyles" value="false"/>
</theme>
```

Including images

For many themes, you will want to pull in custom background images, icons, and so on. This is very easy to do:

- Put the images in the same directory as your CSS and `atlassian-plugin.xml` files.
- Add a resource to your theme descriptor XML file for the image:

```
<resource type="download" name="image-theme.css" location="image-theme.css"/>
<param name="includeClassicStyles" value="false"/>
```

Sample theme

Here's a listing of the files in the source of the Easy Blue theme (demonstrated above):

- `atlassian-plugin.xml`
- `divider.png`
- `easy-blue-theme.css`
- `gradient-comment-side-light.png`
- `gradient-comment-side.png`
- `gradient-comments-light.png`
- `gradient-comments.png`
- `gradient-dark-invert.png`
- `gradient-dark.png`
- `gradient-light.png`
- `home-16.png`
- `theme-icon.gif`

These are all zipped up into the `easy-blue-theme-1.1.jar` file which can be installed into Confluence. In fact, the JAR file is almost exactly the same as the ZIP file. The only difference is a manifest file generated automatically by the `jar` command line tool, which is completely unnecessary for your theme to work in Confluence.

Here's the plugin descriptor file:
Creating a Theme Plugin

- Using Decorators
- Using Stylesheets
- Using Colour Schemes

Using Decorators

A decorator defines Confluence page layout. By modifying a decorator file, you can move 'Attachments' tab from the left of the screen to the right or remove it completely. Decorator files are written in the Velocity templating language and have the VMD extension. You can familiarise yourself with Velocity at the Velocity Template Overview and decorators in general at the Sitemesh homepage.

Decorators, Contexts and Modes

Confluence comes bundled with a set of decorator files that you can customize. Instead of having one decorator file for each screen, we’ve grouped together similar screens (example: view and edit page screens) to simplify editing layouts.

There is some terminology that we use when talking about decorators that should be defined. We’ve grouped all the screens in Confluence into major categories which we call contexts. Within each context are various modes (ways of viewing that particular layout).

The following table summarises how decorators use contexts and modes:

<table>
<thead>
<tr>
<th>Decorator</th>
<th>Context</th>
<th>Mode</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>page.vmd</td>
<td>page</td>
<td>'view', 'edit', 'edit-preview', 'view-information', and 'view-attachments'</td>
<td></td>
</tr>
<tr>
<td>blogpost.vmd</td>
<td>blogpost (news)</td>
<td>'view', 'edit', 'edit-preview', and 'remove'</td>
<td>We prefer to use 'news' as an end-user term; all templates and classes use 'blogpost' to indicate RSS related content</td>
</tr>
<tr>
<td>mail.vmd</td>
<td>mail</td>
<td>'view', 'view-thread' and 'remove'</td>
<td></td>
</tr>
<tr>
<td>global.vmd</td>
<td>global</td>
<td>'dashboard', 'view-profile', 'edit-profile', 'change-password-profile', 'edit-notifications-profile'</td>
<td></td>
</tr>
<tr>
<td>main.vmd</td>
<td>n/a (header and footer formatting)</td>
<td></td>
<td>main.vmd is used to control the header and footer of each page, not the page specific presentation logic</td>
</tr>
</tbody>
</table>
space.vmd | space-pages | list-alphabetically,  
| list-recently-updated,  
| list-content-tree, create-page  
| space.vmd handles a wide range of options, this context is  
| accessed by clicking on 'browse space' in the default theme  
| of Confluence (tabbed theme)  

| space-mails | view-mail-archive  
| space-blogposts | view-blogposts, create-blogpost  
| space-templates | view-templates  
| space-operations | view-space-operations  

| space-administration | view-space-administration, list-permission-pages  

Example

As an example on how to use the table above, say we found the 'Attachments' tab on the view page screen annoying and wanted to remove it. We could make this layout change in the page.vmd file - where the 'view' mode is handled (as shown below).

```velocity
#parse
or . These include files pass important information about the space to other space decorators and hence must be included.
```

The Theme Helper Object

When editing decorator files you will come across a variable called $helper - this is the theme helper object.

The following table summarises what this object can do:

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$helper.domainName</td>
<td>displays the base URL of your Confluence instance on your page. This is useful for constructing links to your own Confluence pages.</td>
</tr>
<tr>
<td>$helper.spaceKey()</td>
<td>returns the current space key or null if in a global context.</td>
</tr>
<tr>
<td>$helper.spaceName</td>
<td>returns the name of the current space</td>
</tr>
<tr>
<td>$helper.renderConfluenceMacro(&quot;{create-space-button}&quot;)</td>
<td>renders a call to a [Confluence Macro] for the velocity context</td>
</tr>
<tr>
<td>$helper.getText(&quot;key.key1&quot;)</td>
<td>looks up a key in a properties file matching key.key1=A piece of text and returns the matching value (&quot;A piece of text&quot;)</td>
</tr>
<tr>
<td>$helper.action</td>
<td>returns the XWork action which processed the request for the current page.</td>
</tr>
</tbody>
</table>

If you are on a page or space screen you also have access to the actual page and space object by using $helper.page and $helper.space respectively.

If you want to delve more into what other methods are available in this object, please see our API's for ThemeHelper.

Velocity macros

Finally, the last thing you need to decipher decorator files is an understanding of macros. A velocity macro looks like this:

```velocity
#myVelocityMacro()
```

In essence, each macro embodies a block of code. We've used these macros to simplify decorator files and make them easier to modify.

For example, the #editPageLink() macro will render the edit page link you see on the 'View Page Screen'. All the logic which checks whether a certain user has permissions to edit pages and hence see the link are hidden in this macro. As the theme writer, you need only care about calling it.
The easiest way to acquaint yourself with the macros is to browse through your macros.vm file, located in /template/includes/macros.vm (under the base Confluence installation).

Writing your own Velocity Macros

Velocity macros are very useful for abstracting out common presentation logic into a function call and for keeping decorators clean. If you wish to use them for your theme you can either:

Write your own Macros file

Write your own Velocity macros library file, as we've done with macros.vm. If you elect to do this you must locate the velocity.properties file beneath WEB-INF/classes and tell the Velocity engine where your library file can be located, relative to the base installation of Confluence.

Use Inline Velocity Macros.

Inline velocity macros, when loaded once, can be called from anywhere. See decorators/mail.vmd for examples of inline decorators.

Using Stylesheets

Stylesheets can be defined for a theme and they will automatically be included by Confluence when pages are displayed with your theme. You simply need to add a resource of type download to your theme module. Please note that the resource name must end with .css for it to be automatically included by Confluence.

Now, in the HTML header of any page using your theme, a link tag to your theme stylesheets will be created by Confluence. If you have a look at the source of combined.css, it will contain imports to all your theme stylesheets.

Theme stylesheets are included after all the default Confluence styles and colour schemes. This is to ensure that your theme styles can override and take precedence over the base styles provided by Confluence.

Using Colour Schemes

Users can customise their own colour scheme (regardless of the theme selected) for a particular space under Space Administration.
The following colours can be customised for this colour scheme.

<table>
<thead>
<tr>
<th>Component</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Bar</td>
<td>#003366</td>
</tr>
<tr>
<td>Tab Navigation Background</td>
<td>#3c78b5</td>
</tr>
<tr>
<td>Tab Navigation Text</td>
<td>#ffffff</td>
</tr>
<tr>
<td>Breadcrumbs Text</td>
<td>#ffffff</td>
</tr>
<tr>
<td>Space Name Text</td>
<td>#999999</td>
</tr>
<tr>
<td>Heading Text</td>
<td>#003366</td>
</tr>
<tr>
<td>Links</td>
<td>#003366</td>
</tr>
<tr>
<td>Borders and Dividers</td>
<td>#3c78b5</td>
</tr>
<tr>
<td>Tab Navigation Background Highlight</td>
<td>#003366</td>
</tr>
<tr>
<td>Tab Navigation Text Highlight</td>
<td>#ffffff</td>
</tr>
<tr>
<td>Top Bar Menu Selected Background</td>
<td>#335699</td>
</tr>
<tr>
<td>Top Bar Menu Item Text</td>
<td>#003366</td>
</tr>
<tr>
<td>Page Menu Selected Background</td>
<td>#6999cc</td>
</tr>
<tr>
<td>Page Menu Item Text</td>
<td>#5b5353</td>
</tr>
<tr>
<td>Menu Item Selected Background</td>
<td>#6999cc</td>
</tr>
<tr>
<td>Menu Item Selected Text</td>
<td>#ffffff</td>
</tr>
</tbody>
</table>

You may choose to respect these user configured colour schemes in your theme or ignore them completely by overriding them in your theme stylesheets. If you would like to respect the configured colour schemes for your new UI elements, you should specify a velocity stylesheet resource in your theme module.

Please note that the `resource` name must end with `.vm`, and the `type` must be `stylesheet` for it to be automatically rendered as a velocity template by Confluence. This velocity stylesheet will essentially contain css for colours with references to the `color scheme bean` (which is available to you via the action). For example:

```xml
<theme key="mytheme" .... >
  ...
  <resource type="stylesheet" name="my-theme-colors.vm" location="templates/clickr/my-theme-colors.vm"/>
  ...
</theme>
```

As the velocity stylesheet is rendered as a velocity template, you will need to escape any #ids (e.g. breadcrumbs) that match velocity macro names.

Additionally, you may choose to provide your theme with a pre-defined colour scheme (which users will be able to select under Space Administration). This pre-defined colour scheme will take precedence if no custom user one is defined for the space. To define a theme's colour scheme, you need to add a colour scheme module and link to it in the theme module. For example:

```xml

#breadcrumbs a {
  color: $action.colorScheme.linkColor;
}
#myNewElement {
  color: $action.colorScheme.headingTextColor;
}
.myNewElementClass {
  border-color: $action.colorScheme.borderColor;
}
...```

As the velocity stylesheet is rendered as a velocity template, you will need to escape any #ids (e.g. breadcrumbs) that match velocity macro names.
The class of a colour scheme must implement `com.atlassian.confluence.themes.ColourScheme`. The `com.atlassian.confluence.themes.BaseColourScheme` class provided with Confluence sets the colours based on the module's configuration.

The available colours correspond to those that you would configure under Space Administration > Colour Scheme:

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>property.style.topbarcolour</td>
<td>The strip across the top of the page</td>
<td>#003366</td>
</tr>
<tr>
<td>property.style.breadcrumbstextcolour</td>
<td>The breadcrumbs text in the top bar of the page</td>
<td>#ffffff</td>
</tr>
<tr>
<td>property.style.spacenamecolour</td>
<td>The text of the current space name, or Confluence in the top left</td>
<td>#999999</td>
</tr>
<tr>
<td>property.style.headingtextcolour</td>
<td>All heading tags throughout the site</td>
<td>#003366</td>
</tr>
<tr>
<td>property.style.linkcolour</td>
<td>All links throughout the site</td>
<td>#003366</td>
</tr>
<tr>
<td>property.style.bordercolour</td>
<td>Table borders and dividing lines</td>
<td>#3c78b5</td>
</tr>
<tr>
<td>property.style.navbgcolour</td>
<td>Background of tab navigation buttons</td>
<td>#3c78b5</td>
</tr>
<tr>
<td>property.style.navtextcolour</td>
<td>Text of tab navigational buttons</td>
<td>#ffffff</td>
</tr>
<tr>
<td>property.style.navselectedbgcolour</td>
<td>Background of tab navigation buttons when selected or hovered</td>
<td>#003366</td>
</tr>
<tr>
<td>property.style.navselectedtextcolour</td>
<td>Text of tab navigation buttons when selected or hovered</td>
<td>#ffffff</td>
</tr>
<tr>
<td>property.style.topbarmenuselectedbgcolour</td>
<td>Background of top bar menu when selected or hovered</td>
<td>#336699</td>
</tr>
<tr>
<td>property.style.topbarmenuitemtextcolour</td>
<td>Text of menu items in the top bar menu</td>
<td>#003366</td>
</tr>
<tr>
<td>property.style.menuselectedbgcolour</td>
<td>Background of page menu when selected or hovered</td>
<td>#6699cc</td>
</tr>
<tr>
<td>property.style.menutextcolour</td>
<td>Text of menu items in the page menu</td>
<td>#535353</td>
</tr>
<tr>
<td>property.style.menutemselectedbgcolour</td>
<td>Background of menu items when selected or hovered</td>
<td>#6699cc</td>
</tr>
<tr>
<td>property.style.menutemselectedtextcolour</td>
<td>Text of menu items when selected or hovered</td>
<td>#ffffff</td>
</tr>
</tbody>
</table>

**Packaging and installing a Theme Plugin**

**The Theme Plugin Module**

The theme module defines the theme itself. When someone in Confluence selects a theme either globally or within a space, they are selecting from the available theme modules.
module definition into a theme.

A theme can contain an optional `colour-scheme` element that defines which colour-scheme module this theme will use, and any number of `layout` elements that define which layouts should be applied in this theme. Refer to these modules by their `module complete key`.

It is possible for a theme to use modules that aren’t in the same plugin as the theme. Just keep in mind that your theme will be messed up if some plugin that the theme depends on is removed.

### Installing the Theme

Themes are installed as ‘plugin modules’. The plugin module is a collection of files, usually zipped up in a jar archive, which tells Confluence how to find the decorators and colour-scheme of your theme.

Plugins are a general topic in Confluence and have other uses than themes. In every case, the central configuration file, which describes the plugin to Confluence, is named `atlassian-plugin.xml`.

There are two steps to creating the plugin module.

1. Create the central configuration file for the theme: `atlassian-plugin.xml`
2. Create the jar archive for your theme: bundling your theme

Writing the `atlassian-plugin.xml` file for your theme.

The structure of an `atlassian-plugin.xml` file is fairly self-explanatory. In the code segment below you will find a full example of an `atlassian-plugin.xml`, which lists

- each of the decorators you have defined to customize Confluence
- your colour scheme

in a way which Confluence can use to override the default theme. In other words, this XML tells Confluence to look in certain locations for replacement decorators when processing a request.
The class which each decorator, or layout, is mapped to must implement com.atlassian.confluence.themes.VelocityDecorator.

The layout entry must provide an `overrides` attribute which defines which decorator within Confluence is being overridden by the theme.
Importantly, when telling Confluence to override a particular decorator with another one, the location of the custom decorator is specified; for example:

```xml
<layout key="page" name="Page Decorator" class="com.atlassian.confluence.themes.VelocityDecorator"
        overrides="/decorators/page.vmd">
    <resource type="velocity" name="decorator"
              location="com/atlassian/confluence/themes/tabless/page.vmd"/>
</layout>
```

The location attribute needs to be represented in the jar archive you will use to bundle your theme.

**Bundling the Theme**

Your decorators should be placed in a directory hierarchy which makes sense to you. The atlassian-plugin.xml file should be placed at the top level of the directory structure, afterwards the decorators should be placed in directories which make a meaningful division of what they do. It is your choice as to how the structure is laid out, each decorator could even be placed alongside atlassian-plugin.xml. The essential thing is for the location attribute of each decorator to accurately tell Confluence how to load it.

Thus, a recursive directory listing of the example theme above gives:

<table>
<thead>
<tr>
<th>File Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>atlassian-plugin.xml</td>
</tr>
<tr>
<td>com/atlassian/confluence/themes/tabless/global.vmd</td>
</tr>
<tr>
<td>com/atlassian/confluence/themes/tabless/space.vmd</td>
</tr>
<tr>
<td>com/atlassian/confluence/themes/tabless/mail.vmd</td>
</tr>
<tr>
<td>com/atlassian/confluence/themes/tabless/blogpost.vmd</td>
</tr>
<tr>
<td>com/atlassian/confluence/themes/tabless/main.vmd</td>
</tr>
<tr>
<td>com/atlassian/confluence/themes/tabless/page.vmd</td>
</tr>
</tbody>
</table>

**Theme Configuration**

The themes can be configured via the Configuration link on the Choose Theme page on both the space and global level.

**Choose a Theme**

Assign a look and feel from an installed theme plugin. This theme will override any manually layouts.

- **Plain Website Theme** — demonstrates a plain web page view.
- **Tabless Theme** — plain Confluence theme.
- **Left Navigation Theme** — Left Navigation Bar Theme.

For example, the Left Navigation Theme allows for the specification of the title of the page which page should be used for navigation. The XWork module allows for developing complex configurations for themes, which can be saved in a config file.

**Setting up the atlassian-plugin.xml**

Configuration path parameter.

Specify the path to the configuration action in the atlassian-plugin.xml:

```xml
<theme key="dinosaurs" name="Dinosaur Theme"
       class="com.atlassian.confluence.themes.BasicTheme">
    <description>A nice theme for the kids</description>
    <layout key="com.example.themes.dinosaur:main"/>
    <layout key="com.example.themes.corporate:mail-template"/>
    <param name="space-config-path" value="/themes/dinosaurs/configuretheme.action"/>
    <param name="global-config-path" value="/admin/themes/dinosaurs/configuretheme.action"/>
</theme>
```

Note that two new parameters have been specified in the above xml.

- **space-config-path** points to the action connected with the space theme configuration.
- **global-config-path** points to the action connected with the global theme configuration.

As themes can be specified either on a global or space level, different configuration actions can be implemented for each level. If there is no need for configuration on a level, simply don’t specify the config path.

**XWork Actions**

Specify the configuration actions via the Xwork plugin module.
Define two packages, one for the space-level and one for the global configuration.

```xml
<xwork name="themeaction" key="themeaction">
  <package name="dinosaurs" extends="default" namespace="/themes/dinosaurs">
    <default-interceptor-ref name="defaultStack" />
    <action name="configuretheme" class="com.atlassian.confluence.extra.dinosaurs.ConfigureThemeAction" method="doDefault">
      <result name="input" type="velocity">/templates/dinosaurs/configuretheme.vm</result>
    </action>
    <action name="doconfiguretheme" class="com.atlassian.confluence.extra.dinosaurs.ConfigureThemeAction">
      <result name="success" type="redirect">/spaces/choosetheme.action?key=${key}</result>
    </action>
  </package>
  <package name="dinosaurs-admin" extends="default" namespace="/admin/themes/dinosaurs">
    <default-interceptor-ref name="defaultStack" />
    <action name="configuretheme" class="com.atlassian.confluence.extra.dinosaurs.ConfigureThemeAction" method="doDefault">
      <result name="input" type="velocity">/templates/dinosaurs/configurethemeadmin.vm</result>
    </action>
    <action name="doconfiguretheme" class="com.atlassian.confluence.extra.dinosaurs.ConfigureThemeAction">
      <result name="success" type="redirect">/admin/choosetheme.action</result>
    </action>
  </package>
</xwork>
```

- `configuretheme` defines the velocity file used to display the input view.
- `doconfiguretheme` defines the action to redirect to after the configuration was successful.

Note that the config-path parameters specified above matches the namespace plus the name of the action.

For example, given the above atlassian-plugin.xml, the configuretheme action would be accessed at

```
http://yours server/confluence/themes/dinosaurs/configuretheme.action
```

The namespace of the global action has to start with `/admin`. Otherwise the action will not be decorated by the admin decorator, and the navigation of the admin area will not be visible.

---

**Saving Theme Configurations with Bandana**

To persist the configuration of a theme you can make use of the Bandana persistence framework.

For example, the Left Navigation Theme uses the persister to store its configuration values.

**Defining a Settings Bean**

The recommended way of saving the settings, is to create a simple configuration bean which implements the Serializable interface. The bean for the Left Navigation Theme for example, simply consists of two String variables and their getter and setter methods.
Saving the Bean

Bandana can be used to save a configuration object with a given context, where the context refers to a space. The setValue function of the BandanaManager has three arguments:

- @param context The context to store this value in
- @param key The key of the object
- @param value The value to be stored

```java
package com.atlassian.confluence.extra.leftnavigation;
import java.io.Serializable;
public class LeftNavSettings implements Serializable {
    private String space;
    private String page;

    public String getSpace() {
        return space;
    }

    public void setSpace(String space) {
        this.space = space;
    }

    public String getPage() {
        return page;
    }

    public void setPage(String page) {
        this.page = page;
    }
}
```

A Context can be defined on two levels:

- Global: new ConfluenceBandanaContext()
- Space level: new ConfluenceBandanaContext(spaceKey)

Retrieving the Bean

The configuration object can be retrieved by using bandanaManager.getValue. This method will get the configuration object, starting with the given context and looking up in the context hierarchy if no context is found.

```java
// Create a setting bean.
LeftNavSettings settings = new LeftNavSettings();
settings.setSpace("example Space");
settings.setPage("example Page");

// Save the bean with the BandanaManager
bandanaManager.setValue(new ConfluenceBandanaContext(spaceKey), THEMEKEY, settings);
```

Updating a theme for editable comments

This is a simple how-to that shows the steps to upgrade your plugin for editable comments.

Modify `sharedcomments.vmd`

Making your themes compatible with editable comment only requires modifying `sharedcomments.vmd`. There are 3 parts to update. A good example of this is the Clickr Theme.

Adding the edit link
First to enable editable comment you will need to give access to the edit function. Adding the link is as simple as adding the following piece of code near your existing ‘Permalink’ and ‘Remove Comment’ links:

```groovy
#if { $permissionHelper.canEdit($remoteUser, $comment ) }
| a id="edit-$comment.id" href="$req.contextPath$generalUtil.customGetPageUrl($page)showComments=true&amp;editComment=true&amp;focusedCommentId=$comment.id" action='getText('edit.name')'&gt;</a
#end
```

Enable inline editing

Editing a comment happens inline. Therefore the editor must be added when rendering the comment being edited as follow:

```groovy
#if { $focusedCommentId == $comment.id && $action.editComment && $permissionHelper.canEdit($remoteUser, $comment ) }
<!--bodytag (Component "name='content'" "theme='notable'" "template='wiki-textarea.vm'"
#param ("formname" "editcommentform")
#param ("spaceKey" "$generalUtil.urlEncode($spaceKey)")
#param ("rows" 15)
#param ("cols" 70)
#param ("width" "100%")
#param ("tabindex" "4")
#param ("editable" "false")
#param ("initialFocus" "false")
#param ("edit" "true")
#param ("heartbeat" "false")
#param ("wikiContent" "$comment.content")
#param ("wysiwygContent" "$action.helper.wikiStyleRenderer.convertWikiToXHtml($comment.toPageContext(), $comment.content)
#end
#
#commentSubmission()
</form>

#end
```

Add update information

This step is optional but it always nice for user to know when a comment has been updated and by who. The following piece of code gets the necessary information.

```groovy
#if { $action.helper.shouldRenderCommentAsUpdated($comment) }
<br/>
#if { $comment.creatorName == $comment.lastModifierName }
$action.getText("comment.updated.by.author", ["#usernameLink ($comment.lastModifierName)
$action.dateFormatter.formatDateTime( $comment.lastModificationDate )
#end
#end
```

The `shouldRenderCommentAsUpdated` method is a convenience method that checks whether the comment has been updated by its creator more than 10 minutes after being created. It exists so that comments will not get cluttered with useless information because of a quick fix made shortly after the comment is posted. One can adjust the time frame by passing a number of seconds as the second argument to this method.

Finally, if the updater of the comment is different to the original author of the comment, his name is displayed.

**Trigger Plugins**

> Trigger plugin modules are available in Confluence 2.2 and later.

Trigger plugin modules enable you to schedule when your Job Plugins are scheduled to run Confluence.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins

**Trigger Plugin Module**

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The Trigger plugin module schedules Jobs within a plugin. Triggers are one of two types:

- cron - jobs are scheduled using cron syntax
- simple - jobs are scheduled to repeat every X seconds

Here is an example `atlassian-plugin.xml` fragment containing a Job with its corresponding Trigger module using a cron-style expression (for reference, this expression will execute the job with key 'myJob' every minute):

```xml
<atlassian-plugin name="Sample Component" key="confluence.extra.component">
  ...
  <job key="myJob" name="My Job">
    class="com.example.myplugin.jobs.MyJob" />
  <trigger key="myTrigger" name="My Trigger">
    <job key="myJob" />
    <schedule cron-expression="0 * * * * ?" />
  </trigger>
  ...
</atlassian-plugin>
```

For the `<trigger>` element:

- the `name` attribute represents how this component will be referred to in the Confluence interface.
- the `key` attribute represents the internal, system name for your Trigger.
- the `class` attribute represents the class of the Job to be created. The class must have a no-argument constructor, or it will not be able to be instantiated by Confluence.

For more details on the cron expressions, see the Quartz documentation for `CronTrigger`.

Here is another example, this time using a simple trigger that repeats every 3600000 milliseconds (1 hour) and will only repeat 5 times:

```xml
...
<trigger key="myTrigger" name="My Trigger">
  <job key="myJob" />
  <schedule repeat-interval="3600000" repeat-count="5" />
</trigger>
...
```

**User Macro Plugins**

✅ You can create user macros without writing a plugin through the User Macros administration menu.

**Adding a user macro plugin**

User Macros are a kind of Confluence plugin module.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins

⚠️ User macro plugin modules are available in Confluence 2.3 or later

**User Macro Plugin Modules**

User macro plugin modules allow plugin developers to define simple macros directly in the `atlassian-plugin.xml` file, without writing any additional Java code. User macro plugin modules are functionally identical to User Macros configured through the administrative console, except that they can be packaged and distributed in the same way as normal plugins.

ℹ️ User macros installed by plugin modules do not appear in the user macro section of the administrative console, and are not editable from within the user interface. They appear just as normal plugin modules in the plugin interface.

**Configuring a Macro Plugin Module**

Macro plugin modules are configured entirely inside the `atlassian-plugin.xml` file, as follows:
The `<template>` section is required, and defines the velocity template that will be used to render the macro.

All the velocity variables available in User Macros are available in user macro plugin modules.

The name and key of the macro must be specified the same as Macro Plugins.

No class attribute is required.

The attributes of the `<user-macro>` element match the corresponding configuration for user macros:

### Available Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Required</th>
<th>Default Value</th>
<th>Allowed Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>hasBody</td>
<td>No</td>
<td>false</td>
<td>• true – the macro expects a body (i.e. (hello)World(hello))&lt;br&gt;• false – the macro does not expect a body (i.e. Hello, (name))</td>
</tr>
<tr>
<td>bodyType</td>
<td>No</td>
<td>raw</td>
<td>• raw – the body will not be processed before being given to the template&lt;br&gt;• escapehtml – HTML tags will be escaped before being given to the template&lt;br&gt;• rendered – the body will be rendered as wiki text before being given to the template</td>
</tr>
<tr>
<td>outputType</td>
<td>No</td>
<td>html</td>
<td>• html – the template produces HTML that should be inserted directly into the page&lt;br&gt;• wiki – the template produces Wiki text that should be rendered to HTML before being inserted into the page</td>
</tr>
</tbody>
</table>

### Velocity Context Plugins

Velocity Context plugin modules are available in Confluence 1.4 and later.

Velocity Context plugin modules enable you to add components to Confluence’s velocity context, making those components available in templates rendered from decorators, themes, XWork actions or macros.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins.

### Velocity Context Plugin Module

Each component module adds a single object to Confluence’s default velocity context. This context is the collection of objects that are passed to each velocity template during rendering of macros, decorators, themes and XWork actions. This allows you to create helper objects that perform tasks too complex to represent in Velocity templates.

The objects are autowired by Spring before being added to the context.

Here is an example `atlassian-plugin.xml` file containing a single velocity context module:

```xml
<atlassian-plugin name='Sample Component' key='confluence.extra.component'>
  ...
  <velocity-context-item key='myVelocityHelper' name='My Plugin’s Velocity Helper' context-key='myVelocityHelper'
    class='com.example.myplugin.helpers.MyVelocityHelper' />
  ...
</atlassian-plugin>
```

- the `name` attribute represents how this component will be referred to in the Confluence interface.
The key attribute represents the internal, system name for your component.

- The context-key attribute represents the variable that will be created in Velocity for this item. So if you set a context-key of myVelocityHelper, the object will be available as \$myVelocityHelper in Velocity templates.
- The class attribute represents the class of the component to be created. The class must have a no-argument constructor, or it will not be able to be instantiated by Confluence.

### Web Resource Plugins

Please take a look at our overview of how and why you should include Javascript and CSS resources into your plugin. The page below gives specific details of the Web Resource plugin module type.

**Including your web resource in a specific context**

In Confluence 2.10 we added the ability to specify web resources like CSS and JavaScript to be included in specific contexts of Confluence. Please see below for the currently available contexts and more information.

**On this page:**

- Purpose of this Module Type
- Configuration
  - Attributes
  - Elements
- Example
  - Referring to Web Resources
    - Batched Mode
    - Non-Batched Mode
- Notes
- Web Resource Contexts

### Purpose of this Module Type

Web Resource plugin modules allow plugins to define downloadable resources. If your plugin requires the application to serve additional static Javascript or CSS files, you will need to use downloadable web resources to make them available. Web resources are added at the top of the page in the header with the cache-related headers set to never expire.

### Configuration

The root element for the Web Resource plugin module is `web-resource`. It allows the following attributes and child elements for configuration:

#### Attributes

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td></td>
<td>The class which implements this plugin module. The class you need to provide depends on the module type. For example, Confluence theme, layout and colour-scheme modules can use classes already provided in Confluence. So you can write a theme-plugin without any Java code. But for macro and listener modules you need to write your own implementing class and include it in your plugin.</td>
<td></td>
</tr>
<tr>
<td>disabled</td>
<td></td>
<td>Indicate whether the plugin module should be disabled by default (value='true') or enabled by default (value='false').</td>
<td>false</td>
</tr>
<tr>
<td>i18n-name-key</td>
<td></td>
<td>The localisation key for the human-readable name of the plugin module.</td>
<td></td>
</tr>
<tr>
<td>key</td>
<td>✓</td>
<td>The identifier of the plugin module. This key must be unique within the plugin where it is defined. A module with key fred in a plugin with key com.example.modules will have a complete key of com.example.modules:fred. i.e. the identifier of the web resource.</td>
<td>N/A</td>
</tr>
<tr>
<td>name</td>
<td></td>
<td>The human-readable name of the plugin module. i.e. the human-readable name of the web resource.</td>
<td></td>
</tr>
<tr>
<td>system</td>
<td></td>
<td>Indicates whether this plugin module is a system plugin module (value='true') or not (value='false'). Only available for non-O SGi plugins.</td>
<td>false</td>
</tr>
</tbody>
</table>

#### Elements

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>description</td>
<td></td>
<td>The description of the plugin module. The 'key' attribute can be specified to declare a localisation key for the value instead of text in the element body. i.e. the description of the resource.</td>
<td></td>
</tr>
</tbody>
</table>
A resource for this plugin module. This element may be repeated. A ‘resource’ is a non-Java file that a plugin may need in order to operate. Refer to Adding Plugin and Module Resources for details on defining a resource. Currently, supported file types are .css and .js. For web resources, the type attribute must be 'download'.

Dependencies for the web resource module. A web resource can depend on other web resource(s) to be available. Dependencies are defined in the format ‘pluginKey:webResourceKey’ e.g. <dependency>confluence.web.resources:ajs</dependency>

Note: This element is only available from 2.2.

Here is an example atlassian-plugin.xml file containing a single web resource:

```xml
<atlassian-plugin name="Hello World Resource" key="example.plugin.helloworld" plugins-version="2">  
  <plugin-info>  
    <description>A basic web resource module test</description>  
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>  
    <version>1.0</version>  
  </plugin-info>  
  <web-resource key="scriptaculous" name="Scriptaculous">  
    <resource type="download" name="scriptaculous.js" location="includes/js/effects/scriptaculous.js"/>  
    <resource type="download" name="effects.js" location="includes/js/effects/effects.js"/>  
  </web-resource>  
</atlassian-plugin>
```

Referring to Web Resources

In your plugin, you need to refer to a WebResourceManager and call the requireResource() method. The reference to WebResourceManager can be injected into your constructor:

```java
public MyServlet extends HttpServlet {  
  private WebResourceManager webResourceManager;  
  public MyServlet(WebResourceManager webResourceManager) {  
    this.webResourceManager = webResourceManager;  
  }  
  protected final void doGet(HttpServletRequest httpServletRequest, HttpServletResponse httpServletResponse) throws IOException {  
    webResourceManager.requireResource("example.plugin.helloworld:scriptaculous"); // should be the full module key for the <webreference> module.  
    // more code  
  }  
}
```

Batched Mode

The default mode for serving web resources in Plugins 2.2 is batched mode. Batched mode refers to the serving of multiple plugin resources (of the same type) in one request. For example, the two scriptaculous.js and effects.js resources defined above would be served in one request, containing both scriptaculous.js and effects.js. Hence, batching reduces the number of HTTP requests that web browsers need to make to load a web page.

URLs for batched resources are in the following format:

```text
SERVER_ROOT/s/BUILD_NUM/PLUGIN_VERSION/SYSTEM_COUNTER/_/download/batch/js/PLUGIN_KEY:MODULE_KEY/BATCHNAME.js  
SERVER_ROOT/s/BUILD_NUM/PLUGIN_VERSION/SYSTEM_COUNTER/_/download/batch/css/PLUGIN_KEY:MODULE_KEY/BATCHNAME.css
```

For the above scriptaculous example, the following code will be inserted in the header of the page:

```html
<script type="text/javascript" src="http://jira.example.com/s/170/1.0/1/_/download/batch/js/jira.extra.impresence:scriptaculous/jiraextra.impresence:scriptaculous.js"></script>
```
Non-Batched Mode

Prior to Plugins 2.2, each resource defined was served separately. To revert to this non-batched mode, you can either

- use the system property `{{plugin.webresource.batching.off=true}}` to turn off batching system wide
- or define a 'batch' parameter on each resource like so:

```xml
<resource type="download" name="scriptaculous.js" location="includes/js/effects/scriptaculous.js" >
  <param name="batch" value="false"/>
</resource>
```

URLs for non batched resources are in the following format:

```
SERVER_ROOT/s/BUILD_NUM/PLUGIN_VERSION/SYSTEM_COUNTER/_/download/resources/PLUGIN_KEY:MODULE_KEY/RESOURCE_NAME
```

For the above scriptaculous example with batching turned off, the following code will be inserted in the header of the page:

```html
<script type="text/javascript"
src="http://jira.example.com/s/170/1.0/1/_/download/resources/jira.extra.impresence:scriptaculous/scriptaculous.js"></script>
<script type="text/javascript"
src="http://jira.example.com/s/170/1.0/1/_/download/resources/jira.extra.impresence:scriptaculous/effects.js"></script>
```

Notes

- Since the resources are returned with headers that tell the browser to cache the content indefinitely, during development, you may need to hold down the "shift" key while reloading the page to force the browser to re-request the files.

Web Resource Contexts

In Confluence 2.10 and later, you can automatically include web resources like CSS and JavaScript on all screens of a specific type in the application. These are called web resource contexts. The currently available contexts are:

<table>
<thead>
<tr>
<th>Context</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>main</td>
<td>Everywhere except administration screens</td>
</tr>
<tr>
<td>admin</td>
<td>Administration screens. Use with care because poorly formed CSS or JavaScript can prevent access to administer Confluence.</td>
</tr>
<tr>
<td>dashboard</td>
<td>Dashboard</td>
</tr>
<tr>
<td>editor</td>
<td>Anywhere an editor appears (fixed in 3.1 to work in comment editor).</td>
</tr>
<tr>
<td>page</td>
<td>Any page-related screen like view, edit, attachments, info; but not blog post, space or global screens.</td>
</tr>
<tr>
<td>blogpost</td>
<td>Any blog-related screen like view, edit, attachments, info; not page, space or global screens.</td>
</tr>
<tr>
<td>space</td>
<td>Any space-related screen, like those found in the top section of the Browse menu.</td>
</tr>
</tbody>
</table>

Technical note: the 'page', 'blogpost' and 'space' contexts correspond to the usage of the 'page.vmd', 'blogpost.vmd' and 'space.vmd' decorators in Confluence.

To configure your web resource to be included for example in the 'space' and 'page' contexts you add `<context>` child elements to your `<web-resource>` element in your `atlassian-plugin.xml`:

```xml
<web-resource name="Resources" key="resources">
  <resource name="foo.js" type="download" location="resources/foo.js">
    <context>space</context>
    <context>page</context>
  </resource>
</web-resource>
```

Using web resource contexts allows you to provide plugins that dynamically create HTML using JavaScript on any page in Confluence. For example, the Content Navigation Plugin includes a snippet of JavaScript on every page in the application, which listens for a particular keyboard shortcut to open a little search box on top the Confluence UI.
Introducing new contexts

If your plugin adds a lot of screens to Confluence, it might be annoying to put many `#requireResource()` declarations in each Velocity template. An alternative is to introduce a new web resource context for your plugin which your plugin web resources (or any other plugin web resource) can hook into, to be automatically included on these screens.

To introduce a new context in your plugin Velocity templates, you can call the `#requireResourcesForContext()` Velocity macro:

```
#requireResourcesForContext("com.acme.plugin.fancy-context")
```

This will include any resource in the page that specifies a context like this in its definition:

```xml
<context>com.acme.plugin.fancy-context</context>
```

We recommend you namespace your new contexts in this way so as not to clash with any future contexts in Confluence or other plugins.

RELATED TOPICS

- Adding Plugin and Module Resources
- Including Javascript and CSS resources
- Writing Confluence Plugins
- Installing and Configuring Plugins Manually

Information sourced from Plugin Framework documentation

Web UI Plugins

Web UI plugin modules allow you to insert links, tabs and sections of links into the Confluence web interface. They're not much use on their own, but when combined with XWork-WebWork Plugins they become a powerful way to add functionality to Confluence.

On this page:

- Sections and Items
- Locations
- Web Section Definition
- Web Item Definition
- Q and A
  - How do I make use of sections or web items in my own themes?
  - Can I create new locations for web UI plugins in my own themes?
  - If I create a Web Item that links to my custom action, how do I make it appear in the same tabs/context as the other items in that location?
  - My web UI link isn't appearing when I use the Adaptavist Theme Builder plugin - why?
  - The breadcrumb trail for my web UI administration/space administration/tab plugin is showing the class name - how do I fix it?

Sections and Items

Web UI plugins can consist of two kinds of plugin modules:

- Web Item modules define links that are to be displayed in the UI at a particular location.
- Web Section modules define a collection of links to be displayed together, in a 'section'.

Web items and web sections (referred to collectively as 'web fragments') may be displayed in a number of different ways, depending on the location of the fragment and the theme under which it is being displayed.

Locations

In a number of places in the Confluence UI, there are lists of links representing operations relevant to the content being viewed.

Please be aware that the Descriptions below relate to the default Confluence theme. Bold text used in each description relates to a component on the product interface.

These are the locations that you can customise:

<table>
<thead>
<tr>
<th>Location key</th>
<th>Themeable?</th>
<th>Sectioned?</th>
<th>Description</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Locations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Page-related</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>system.attachment</td>
<td>✓</td>
<td>✗</td>
<td>The links on the right of an Attachments list</td>
<td>2.8</td>
</tr>
<tr>
<td>system.comment.action</td>
<td>✓</td>
<td>✓</td>
<td>The links within each comment listed at the end of pages and blogs. The sections include the primary section on the lower-left of a comment (i.e. the Edit, Remove and Reply links) and the secondary section on the lower-right (i.e. the Permanent link icon)</td>
<td>2.8</td>
</tr>
</tbody>
</table>
system.content.action ✔ ✔ ✔ The menu items on the Tools drop down menu available on pages and blogs. The sections of this menu include primary, marker, secondary and modify 2.8

User-related

system.profile ✔ ✔ ✔ The tabs above user profile views 2.2
system.profile.view ✔ ✔ ✔ These links are only visible to Confluence administrators and appear either beneath views of user profiles without personal spaces or beneath their own profile view. For example, Administer User 2.9
system.user ✔ ✔ ✔ The menu items on the 'username' drop down menu available in the top bar of all pages. The sections of this menu include user-preferences, user-content and user-operations 2.8

Other

system.content.add ✔ ✔ ✔ The menu items in the Add drop down menu available in pages, blogs and areas of the Space Admin and other Browse Space tabs. The sections of this menu include space and page 2.8
system.dashboard ✔ ✔ ✔ The action section on the lower-left of the global dashboard. This section appears below the Spaces list on this dashboard 2.10.2
system.labels ✔ ✔ ✔ The View sub-categories of the global All Labels / Popular Labels area 2.2

Space Admin and other Browse Space tabs

system.space ✔ ✔ ✔ The Space Admin and other Browse Space tabs 2.2
system.space.actions ✔ ✔ ✔ In versions of Confluence prior to and including version 2.9, these action icons appear in the top-right of most space-related views. However, from Confluence 2.10, this location key has been deprecated and has been superseded by 'system.content.add' 2.2
system.space.admin ✔ ✔ ✔ The links in the left-hand menu of the Space Admin tab area 2.2
system.space.advanced ✔ ✔ ✔ The links in the left-hand menu of the Advanced tab area 2.2
system.space.labels ✔ ✔ ✔ The View sub-categories of the Labels tab area 2.2
system.space.pages ✔ ✔ ✔ The View sub-categories of the Pages tab area 2.2

Administration Console

system.admin ✔ ✔ ✔ The links in the left-hand menu of the global Administration Console 2.2

- Those locations marked as being ‘themeable’ can be moved around, reformatted or omitted by Theme Plugins. The descriptions above refer to where they are located in the default theme.
- Locations marked as being 'sectioned' require that web items be grouped under web sections. In sectioned locations, web items that are not placed under a section will not be displayed.
- It is possible for themes to make any themeable locations sectioned, even when the default theme does not. We do not recommend this, as it would mean any plugin taking advantage of this would only be compatible with a particular theme.

Theme Compatibility
Themes based on Confluence versions prior to 2.2 will continue to function with Confluence 2.2, but will not be able to display any custom Web UI fragments until they are updated.

Web Section Definition
You may choose to create your own web sections or add to Confluence’s predefined ones, if it makes logical sense to do that.

Here is a sample atlassian-plugin.xml fragment for a web section:
Here is another sample:

The above example will create a new `section` on the 'Add' menu. You can then add a `web item` in the section. The location of this section depends on the relative weight compared to the other sections that have already been defined by Confluence or by other installed plugins.

Take a look at the full configuration of Web Section plugin modules.

The diagrams below illustrate the web sections available in the Confluence dropdown menus.

**Web sections for location system.content.action**

```
<web-section key="mail" name="Mail" location="system.space.admin" weight="300">
    <label key="space-mail" />
    <condition class="com.atlassian.confluence.plugin.descriptor.web.conditions.NotPersonalSpaceCondition"/>
</web-section>

<web-section key="page" name="Add Page Content" location="system.content.add" weight="200">
    <label key="page.word" />
</web-section>
```

**Web sections for location system.content.add**

**Web Item Definition**

Here's a sample `atlassian-plugin.xml` fragment for a web item:
Take a look at the full configuration of Web Item plugin modules.

**Q and A**

**How do I make use of sections or web items in my own themes?**

Take a look at how they are used in the default themes, you should be able to get a good idea of the necessary code. For example, here is some sample code from `space.vmd`:

Can I create new locations for web UI plugins in my own themes?

Yes. Just pick a new key for the `location` or `section` parameters of your plugin modules. By convention, you should probably use the standard 'inverted domain name' prefix so as not to clash with anyone else's plugins. We reserve all `system.*` locations for Confluence's core use.

Once again, however, we don't recommend this as you end up with plugins that are only useful in your own themes. Try to at least provide an alternative set of UI modules for people who are using other themes and still want to access the same functionality. You could, for example, define alternative UI plugin modules that placed your functions in Confluence's standard locations, but have a `<condition>` that disabled them in favour of your custom locations if your theme was installed.

If I create a Web Item that links to my custom action, how do I make it appear in the same tabs/context as the other items in that location?

The best way is to look at the .vm file of one of the existing items in that location. You are most interested in the `#applyDecorator` directive being called from that file. For example `viewpage.vm`, which defines the "View" tab in the `system.page` location has the following `#applyDecorator` directive:

If you were writing a plugin that was destined to be added as another item in the page tabs, your Velocity file for that action would also have to have a similar decorator directive around it:

Note that you should put your Web Item's plugin key as the 'mode'. This way, Confluence will make sure that the correct tab is highlighted as the active tab when people are viewing your action.

In some cases, such as the browse space tabs, you may have to use 'context' instead of 'mode'.

My web UI link isn't appearing when I use the Adaptavist Theme Builder plugin - why?

Theme Builder uses completely customisable navigation and as such can't automatically display web UI links because this would likely lead to duplication of many other, more common links.
You can, however use the \{menulink\} macro to insert any web UI link using the following notation:

\{menulink:webui|location=|key=|webui link|menulink\}

Theme Builder 2.0.8 and above now supports a growing number of third party plugins as standard - for more information see the online documentation. If you have a publicly available plugin and want an in-built menulink location for it, please contact Adaptavist.

The breadcrumb trail for my web UI administration/space administration/tab plugin is showing the class name — how do I fix it? In the atlassian-plugin.xml:

<!--Make sure each name is unique-->
<resource type="i18n" name="i18n-viewreview"
location="resources/ViewReviewAction" />

In the java:

//in an action
I18NBean i18NBean = getI18n();

//or in a macro or other sort of plugin
ThemeHelper helper = this.getHelper();
ConfluenceActionSupport action = (ConfluenceActionSupport)
helper.getAction();
Locale locale = action.getLocale();
I18NBean i18nBean = i18nBeanFactory.getI18NBean(locale);

//and
public void setI18NBeanFactory(I18NBeanFactory i18NBeanFactory)
{
	this.i18NBeanFactory = i18NBeanFactory;
}

Use a normal properties file and locate it as follows:

If we're talking about actions:
The properties file with the same name as the relevant action can go in the same directory as the action. So, if you had XYZAction.java, then XYZAction.properties could live in the same directory. And you would not have to do anything in the atlassian-plugin.xml file.

If you don’t want it to live there, or if you're not talking about an action:
Define a resource in the atlassian-plugin.xml and tell it to live wherever you want. The standard is resources.

• In the source: etc/resources
• In the jar: resources/

The property that handles the breadcrumb has to be the fully qualified name of the class plus .action.name

So, for a SharePointAdmin property you might use: com.atlassian.confluence.property you might use: com.atlassian.confluence.extra.sharepoint.SharePointAdmin.action.name=SharePoint Admin

RELATED TOPICS

Web Section Plugin Module
Web Item Plugin Module
Writing Confluence Plugins
Installing and Configuring Plugins Manually

Web Item Plugin Module

On this page:

• Purpose of this Module Type
• Configuration
  • Attributes
  • Elements
  • Label Elements
  • Tooltip Elements
  • Link Elements
  • Icon Elements
  • Param Elements
  • Context-provider Element
  • Condition and Conditions Elements
• Example
• Notes about Web Items in Confluence
  • Link elements
Purpose of this Module Type

Web Item plugin modules allow plugins to define new links in application menus.

Configuration

The root element for the Web Item plugin module is `web-item`. It allows the following attributes and child elements for configuration:

Attributes

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td></td>
<td>The class which implements this plugin module. The class you need to provide depends on the module type. For example, Confluence theme, layout and colour-scheme modules can use classes already provided in Confluence. So you can write a theme-plugin without any Java code. But for macro and listener modules you need to write your own implementing class and include it in your plugin.</td>
<td></td>
</tr>
<tr>
<td>disabled</td>
<td></td>
<td>Indicate whether the plugin module should be disabled by default (value='true') or enabled by default (value='false').</td>
<td>false</td>
</tr>
<tr>
<td>i18n-name-key</td>
<td></td>
<td>The localisation key for the human-readable name of the plugin module.</td>
<td></td>
</tr>
<tr>
<td>key</td>
<td>☑️</td>
<td>The identifier of the plugin module. This key must be unique within the plugin where it is defined. A module with key <code>fred</code> in a plugin with key <code>com.example.modules</code> will have a complete key of <code>com.example.modules:fred</code>.</td>
<td>N/A</td>
</tr>
<tr>
<td>name</td>
<td></td>
<td>The human-readable name of the plugin module. Used only in the plugin’s administrative user interface.</td>
<td></td>
</tr>
<tr>
<td>section</td>
<td>☑️</td>
<td>Location into which this web item should be placed. For non-sectioned locations, this is just the location key. For sectioned locations it is the location key, followed by a slash ('/'), and the name of the web section in which it should appear.</td>
<td>N/A</td>
</tr>
<tr>
<td>system</td>
<td></td>
<td>Indicates whether this plugin module is a system plugin module (value='true') or not (value='false'). Only available for non-OSGi plugins.</td>
<td>false</td>
</tr>
<tr>
<td>weight</td>
<td></td>
<td>Determines the order in which web items appear. Items are displayed top to bottom or left to right in order of ascending weight. The 'lightest' weight is displayed first, the 'heaviest' weights sink to the bottom. The weights for most applications’ system sections start from 100, and the weights for the links generally start from 10. The weight is incremented by 10 for each in sequence so that there is ample space to insert your own sections and links.</td>
<td>1000</td>
</tr>
</tbody>
</table>

Elements

The table summarises the elements. The sections below contain further information.

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>condition</td>
<td></td>
<td>Defines a condition that must be satisfied for the web item to be displayed. If you want to 'invert' a condition, add an attribute 'invert=true' to it. The web item will then be displayed if the condition returns false (not true).</td>
<td>N/A</td>
</tr>
<tr>
<td>conditions</td>
<td></td>
<td>Defines the logical operator type to evaluate its condition elements. By default 'AND' will be used.</td>
<td>AND</td>
</tr>
<tr>
<td>context-provider</td>
<td></td>
<td>Allows dynamic addition to the velocity context available for various web item elements (in XML descriptors only). Currently only one context-provider can be specified per web item and section.</td>
<td></td>
</tr>
<tr>
<td>description</td>
<td></td>
<td>The description of the plugin module. The 'key' attribute can be specified to declare a localisation key for the value instead of text in the element body. i.e. the description of the web item.</td>
<td></td>
</tr>
<tr>
<td>icon</td>
<td></td>
<td>Defines an icon to display with or as the link. Note: In some cases the icon element seems to be required. Try adding it if your web section is not displaying properly.</td>
<td>N/A</td>
</tr>
<tr>
<td>label</td>
<td>☑️</td>
<td>Is the i18n key that will be used to look up the textual representation of the link.</td>
<td>N/A</td>
</tr>
<tr>
<td>link</td>
<td>☑️</td>
<td>Defines where the web item should link to. The contents of the link element will be rendered using Velocity, allowing you to put dynamic content in links. For more complex examples of links, see below.</td>
<td>N/A</td>
</tr>
<tr>
<td>param</td>
<td></td>
<td>Parameters for the plugin module. Use the 'key' attribute to declare the parameter key, then specify the value in either the 'value' attribute or the element body. This element may be repeated. An example is the configuration link described in Adding a Configuration UI for your Plugin. This is handy if you want to use additional custom values from the UI.</td>
<td>N/A</td>
</tr>
<tr>
<td>resource</td>
<td></td>
<td>A resource for this plugin module. This element may be repeated. A 'resource' is a non-Java file that a plugin may need in order to operate. Refer to Adding Plugin and Module Resources for details on defining a resource.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
tooltip  Is the i18n key that will be used to look up the textual mouse-over text of the link.  N/A

Label Elements

Label elements may contain optional parameters, as shown below:

```xml
<label key="common.concepts.create.new.issue">
  <param name="param0">$helper.project.name</param>
</label>
```

- The parameters allow you to insert values into the label using Java's `MessageFormat` syntax.
- Parameter names must start with `param` and will be mapped in alphabetical order to the substitutions in the format string. I.e. `param0` is `{0}`, `param1` is `{1}`, `param2` is `{2}`, etc.
- Parameter values are rendered using Velocity, allowing you to include dynamic content.

Tooltip Elements

Tooltip elements have the same attributes and parameters as the label elements. See above.

Link Elements

Link elements may contain additional information:

```xml
<link linkId="create_link">/secure/CreateIssue!default.jspa</link>
```

- The `linkId` is optional, and provides an XML id for the link being generated.

The body of the link element is its URL. The URL is rendered with Velocity, so you can include dynamic information in the link. For example, in Confluence, the following link would include the page ID:

```xml
<link linkId="view-attachments-link">/pages/viewpageattachments.action?pageId=$page.id</link>
```

Icon Elements

Icon elements have a `height` and a `width` attribute. The location of the icon is specified within a `link` element:

```xml
<icon height="16" width="16">
  <link>/images/icons/print.gif</link>
</icon>
```

Param Elements

Param elements represent a map of key/value pairs, where each entry corresponds to the param elements attribute: `name` and `value` respectively.

```xml
<param name="key" value="value" />
```

The value can be retrieved from within the Velocity view with the following code, where `$item` is a `WebItemModuleDescriptor`:

```velo
$item.webParams.get("key")  <!-- retrieve the value -->
$item.webParams.getRenderedParam("key", $user, $helper)  <!-- retrieve the Velocity rendered value -->
```

If the `value` attribute is not specified, the value will be set to the body of the element. I.e. the following two param elements are equivalent:
The context-provider element adds to the Velocity context available to the web section and web item modules. You can add what you need to the context, to build more flexible section and item elements. Currently only one context-provider can be specified per module. Additional context-providers are ignored.

The context-provider element must contain a class attribute with the fully-qualified name of a Java class. The referenced class:

* must implement `com.atlassian.plugin.web.ContextProvider`, and
* will be auto-wired by Spring before any additions to the Velocity context.

For example, the following context-provider will add `historyWindowHeight` and `filtersWindowHeight` to the context.

In the following example, `HeightContextProvider` extends `AbstractJiraContextProvider`, which is only available in JIRA and happens to implement `ContextProvider`. The `AbstractJiraContextProvider` conveniently extracts the `User` and `JiraHelper` from the context map, which you would otherwise have to do manually.

```java
public class HeightContextProvider extends AbstractJiraContextProvider
{
    private final ApplicationProperties applicationProperties;

    public HeightContextProvider(ApplicationProperties applicationProperties)
    {
        this.applicationProperties = applicationProperties;
    }

    public Map<String, Object> getContextMap(User user, JiraHelper jiraHelper)
    {
        if (jiraHelper != null && jiraHelper.getRequest() != null)
        {
            UserHistory history = (UserHistory) jiraHelper.getRequest().getSession().getAttribute(SessionKeys.USER_ISSUE_HISTORY);
            if (history != null)
            {
                int historyIssues = history.getIssues().size();
                int logoHeight = TextUtils.parseInt(applicationProperties.getDefaultBackedString(APKeys.JIRA_LF_LOGO_HEIGHT));
                String historyHeight = String.valueOf(80 + logoHeight + (25 * historyIssues));
                String filterHeight = String.valueOf(205 + logoHeight);
                return EasyMap.build("historyWindowHeight", historyHeight, "filtersWindowHeight", filterHeight);
            }
        }
        return null;
    }
}
```

The above `HeightContextProvider` can be used by nesting the following element in a web item module.

```xml
<context-provider class="com.atlassian.jira.plugin.web.contextproviders.HeightContextProvider" />
```

The newly added context entries `historyWindowHeight` and `filtersWindowHeight` can be used in the XML module descriptors just like normal velocity context variables, by prefixing them with the dollar symbol ($):

```xml
<web-item>
    <section>
        <value property="\$\{historyWindowHeight\}" />
    </section>
</web-item>
```
Condition and Conditions Elements

Conditions can be added to the web section and web item modules, to display them only when all the given conditions are true.

Condition elements must contain a class attribute with the fully-qualified name of a Java class. The referenced class:

- must implement `com.atlassian.plugin.web.Condition`, and
- will be auto-wired by Spring before any condition checks are performed.

Condition elements can take optional parameters. These parameters will be passed in to the condition's `init()` method as a map of string key/value pairs after autowiring, but before any condition checks are performed. For example:

```xml
<condition class="com.atlassian.jira.plugin.web.conditions.JiraGlobalPermissionCondition">
  <param name="permission">admin</param>
</condition>
```

To invert a condition, add the attribute `invert="true"` to the condition element. This is useful where you want to show the section if a certain condition is not satisfied.

Conditions elements are composed of a collection of condition/conditions elements and a type attribute. The type attribute defines what logical operator is used to evaluate its collection of condition elements. The type can be one of AND or OR.

For example: The following condition is true if the current user is a system administrator OR a project administrator:

```xml
<conditions type="OR">
  <condition class="com.atlassian.jira.plugin.web.conditions.JiraGlobalPermissionCondition">
    <param name="permission">admin</param>
  </condition>
  <condition class="com.atlassian.jira.plugin.web.conditions.UserHasProjectsCondition">
    <param name="permission">project</param>
  </condition>
</conditions>
```

Example

Here is an example atlassian-plugin.xml file containing a single web item:

```xml
<atlassian-plugin name="Hello World Plugin" key="example.plugin.helloworld" plugins-version="2">
  <plugin-info>
    <description>A basic web item module test</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
  <web-item key="google_home" name="Google Home" section="system.admin/example1" weight="10">
    <description key="item.google.home.desc">Simple link to google.com.</description>
    <label key="item.google.home.label" />
    <link linkId="google_home">http://google.com</link>
  </web-item>
</atlassian-plugin>
```

Notes about Web Items in Confluence

Link elements

Here is another example of a Link elements containing additional information:
The accessKey is optional and provides an access key for the link being generated.

There is no standard way for Confluence to display a web item. Depending on where the item is being displayed, some information in the configuration may be ignored. For example, themes may choose not to display the icon, or may choose to display only the icon. Similarly, the linkId and accessKey attributes are only used in some locations.

RELATED TOPICS
Web UI Plugins
Web Section Plugin Module
Web Resource Plugins
Writing Confluence Plugins

Information sourced from Plugin Framework documentation

**Web Section Plugin Module**

On this page:
- Purpose of this Module Type
- Configuration
  - Attributes
  - Elements
  - Label Elements
  - Tooltip Elements
  - Param Elements
  - Context-provider Element
  - Condition and Conditions elements
- Example

**Purpose of this Module Type**

Web Section plugin modules allow plugins to define new sections in application menus. Each section can contain one or more links. To insert the links themselves, see the Web Item Plugin Module.

**Configuration**

The root element for the Web Section plugin module is `web-section`. It allows the following attributes and child elements for configuration:

**Attributes**

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td></td>
<td>The class which implements this plugin module. The class you need to provide depends on the module type. For example, Confluence theme, layout and colour-scheme modules can use classes already provided in Confluence. So you can write a theme-plugin without any Java code. But for macro and listener modules you need to write your own implementing class and include it in your plugin.</td>
<td></td>
</tr>
<tr>
<td>disabled</td>
<td></td>
<td>Indicate whether the plugin module should be disabled by default (value='true') or enabled by default (value='false').</td>
<td>false</td>
</tr>
<tr>
<td>i18n-name-key</td>
<td></td>
<td>The localisation key for the human-readable name of the plugin module.</td>
<td></td>
</tr>
<tr>
<td>key</td>
<td>✔️</td>
<td>The identifier of the plugin module. This key must be unique within the plugin where it is defined. A module with key fred in a plugin with key com.example.modules will have a complete key of com.example.modules:fred.</td>
<td>N/A</td>
</tr>
<tr>
<td>name</td>
<td></td>
<td>The human-readable name of the plugin module. Only used in the plugin's administrative user interface.</td>
<td></td>
</tr>
<tr>
<td>section</td>
<td>✔️</td>
<td>Location into which this web item should be placed. For non-sectioned locations, this is just the location key. For sectioned locations it is the location key, followed by a slash ('/'), and the name of the web section in which it should appear.</td>
<td>N/A</td>
</tr>
<tr>
<td>system</td>
<td></td>
<td>Indicates whether this plugin module is a system plugin module (value='true') or not (value='false'). Only available for non-OSGi plugins.</td>
<td>false</td>
</tr>
</tbody>
</table>
weight | Determines the order in which web items appear. Items are displayed top to bottom or left to right in order of ascending weight. The 'lightest' weight is displayed first, the 'heaviest' weights sink to the bottom. The weights for most applications' system sections start from 100, and the weights for their links generally start from 10. The weight is incremented by 10 for each in sequence so that there is ample space to insert your own sections and links. | N/A

Elements

The table summarises the elements. The sections below contain further information.

<table>
<thead>
<tr>
<th>Name</th>
<th>Required</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>condition</td>
<td></td>
<td>Defines a condition that must be satisfied for the web item to be displayed. If you want to 'invert' a condition, add an attribute 'invert=&quot;true&quot;' to it. The web item will then be displayed if the condition returns false (not true).</td>
<td>N/A</td>
</tr>
<tr>
<td>conditions</td>
<td></td>
<td>Defines the logical operator type used to evaluate the condition elements. By default 'AND' will be used.</td>
<td>AND</td>
</tr>
<tr>
<td>context-provider</td>
<td></td>
<td>Allows dynamic addition to the Velocity context available for various web item elements (in XML descriptors only). Currently only one context-provider can be specified per web item and section.</td>
<td>N/A</td>
</tr>
<tr>
<td>description</td>
<td></td>
<td>The description of the plugin module. The 'key' attribute can be specified to declare a localisation key for the value instead of text in the element body. Use this element to describe the section.</td>
<td></td>
</tr>
<tr>
<td>label</td>
<td></td>
<td>Is the i18n key that will be used to look up the textual representation of the link.</td>
<td>N/A</td>
</tr>
<tr>
<td>param</td>
<td></td>
<td>Parameters for the plugin module. Use the 'key' attribute to declare the parameter key, then specify the value in either the 'value' attribute or the element body. This element may be repeated. Defines a key/value pair available from the web item. This is handy if you want to use additional custom values from the UI.</td>
<td>N/A</td>
</tr>
<tr>
<td>resource</td>
<td></td>
<td>A resource for this plugin module. This element may be repeated. A 'resource' is a non-Java file that a plugin may need in order to operate. Refer to Adding Plugin and Module Resources for details on defining a resource.</td>
<td>N/A</td>
</tr>
<tr>
<td>tooltip</td>
<td></td>
<td>Is the i18n key that will be used to look up the textual mouse-over text of the link.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Label Elements

Label elements may contain optional parameters, as shown below:

```xml
<label key="common.concepts.create.new.issue">
  <param name="param0">$helper.project.name</param>
</label>
```

- The parameters allow you to insert values into the label using Java's MessageFormat syntax.
- Parameter names must start with `param` and will be mapped in alphabetical order to the substitutions in the format string. I.e. param0 is {0}, param1 is {1}, param2 is {2}, etc.
- Parameter values are rendered using Velocity, allowing you to include dynamic content.

Tooltip Elements

Tooltip elements have the same attributes and parameters as the label elements. See above.

Param Elements

Param elements represent a map of key/value pairs, where each entry corresponds to the param elements attribute: name and value respectively.

```xml
<param name="key" value="value" />
```

The value can be retrieved from within the Velocity view with the following code, where $item is a WebItemModuleDescriptor:
If the `value` attribute is not specified, the value will be set to the body of the element. I.e. the following two param elements are equivalent:

```html
<param name="isPopupLink" value="true" />
<param name="isPopupLink">true</param>
```

Context-provider Element

This feature only applies to JIRA

Only JIRA supports custom context providers.

The context-provider element adds to the Velocity context available to the `web` section and `web item` modules. You can add what you need to the context, to build more flexible section and item elements. Currently only one context-provider can be specified per module. Additional context-providers are ignored.

The `context-provider` element must contain a class attribute with the fully-qualified name of a Java class. The referenced class:

- must implement `com.atlassian.plugin.web.ContextProvider`, and
- will be auto-wired by Spring before any additions to the Velocity context.

For example, the following context-provider will add `historyWindowHeight` and `filtersWindowHeight` to the context.

In the following example, `HeightContextProvider` extends `AbstractJiraContextProvider`, which is only available in JIRA and happens to implement `ContextProvider`. The `AbstractJiraContextProvider` conveniently extracts the `User` and `JiraHelper` from the context map, which you would otherwise have to do manually.

```java
public class HeightContextProvider extends AbstractJiraContextProvider
{
    private final ApplicationProperties applicationProperties;

    public HeightContextProvider(ApplicationProperties applicationProperties)
    {
        this.applicationProperties = applicationProperties;
    }

    public Map getContextMap(User user, JiraHelper jiraHelper)
    {
        int historyIssues = 0;
        if (jiraHelper != null && jiraHelper.getRequest() != null)
        {
            UserHistory history = (UserHistory)
            jiraHelper.getRequest().getSession().getAttribute(SessionKeys.USER_ISSUE_HISTORY);
            if (history != null)
            {
                historyIssues = history.getIssues().size();
            }
        }

        int logoHeight =TextUtils.parseInt(applicationProperties.getDefaultBackedString(APKeys.JIRA_Vert_LOGO_HEIGHT));
        String historyHeight = String.valueOf(80 + logoHeight + (25 * historyIssues));
        String filtersHeight = String.valueOf(205 + logoHeight);
        return EasyMap.build("historyWindowHeight", historyHeight,
         "filtersWindowHeight", filterHeight);
    }
}
```

The above `HeightContextProvider` can be used by nesting the following element in a web item module.
The newly added context entries `historyWindowHeight` and `filtersWindowHeight` can be used in the XML module descriptors just like normal velocity context variables, by prefixing them with the dollar symbol ($):

```xml
<!-- pass the value of historyWindowHeight as a parameter called windowHeight (see param element above for its usage) -->
<param name="windowHeight">$historyWindowHeight</param>

<!-- set the link's label to print the value of filtersWindowHeight -->
<label>filter window height is: $filtersWindowHeight</label>
```

**Condition and Conditions elements**

Conditions can be added to the web section and web item modules, to display them only when all the given conditions are true.

Condition elements must contain a class attribute with the fully-qualified name of a Java class. The referenced class:

- must implement `com.atlassian.plugin.web.Condition`, and
- will be auto-wired by Spring before any condition checks are performed.

Condition elements can take optional parameters. These parameters will be passed in to the condition's `init()` method as a map of string key/value pairs after autowiring, but before any condition checks are performed. For example:

```xml
<condition class="com.atlassian.jira.plugin.web.conditions.JiraGlobalPermissionCondition">
  <param name="permission">admin</param>
</condition>
```

To invert a condition, add the attribute `invert="true"` to the condition element. This is useful where you want to show the section if a certain condition is not satisfied.

Conditions elements are composed of a collection of condition/conditions elements and a type attribute. The type attribute defines what logical operator is used to evaluate its collection of condition elements. The type can be one of `AND` or `OR`.

For example: The following condition is true if the current user is a system administrator OR a project administrator:

```xml
<conditions type="OR">
  <condition class="com.atlassian.jira.plugin.web.conditions.JiraGlobalPermissionCondition">
    <param name="permission">admin</param>
  </condition>
  <condition class="com.atlassian.jira.plugin.web.conditions.UserHasProjectsCondition">
    <param name="permission">project</param>
  </condition>
</conditions>
```

**Example**

Here is an example `atlassian-plugin.xml` file containing a single web section, using a condition that will be available in JIRA:
<atlassian-plugin name="Hello World Plugin" key="example.plugin.helloworld" plugins-version="2">
  <plugin-info>
    <description>A basic web section module test</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
  <web-section key="usersgroups" name="Users and Groups Section" location="system.admin" weight="110">
    <label key="admin.menu.usersandgroups.users.and.groups"/>
    <condition class="com.atlassian.jira.plugin.web.conditions.UserIsAdminCondition"/>
  </web-section>
</atlassian-plugin>

RELATED TOPICS

Web UI Plugins
Web Item Plugin Module
Web Resource Plugins
Writing Confluence Plugins

Information sourced from Plugin Framework documentation

Workflow Plugins

This set of pages describes the Workflow Plugin. This is a work in progress and is useful as:

- An example of a reasonably complicated plugin, using macros, events and xwork actions which stores state as page properties and interacts with content entity versions and permissions.
- A starting point for discussion of what plugin-based workflow in Confluence might look like. A workflow implementation which made core Confluence changes might look different.

Here's a description of the workflow model implemented by the plugin.

Here's a [technical description] of the components of the Workflow Plugin.

⚠️ The workflow plugin as released in 1.4.2 does not have all the features described. It will be updated in the first 1.5DP release.

We're interested in getting feedback – how useful does the workflow model as described seem to you?

Workflow Plugin Prototype

Introduction

This page describes a prototype Workflow Plugin for Confluence. After reading it you should be able to create a workflow description and use it to manage a set of pages in Confluence.

The purposes of the Confluence Workflow Plugin Prototype are:

1. To provide a simple but usable workflow system for Confluence.
2. To solicit further requirements for Workflow in Confluence.
3. To demonstrate the power of the Confluence Plugin system – the workflow plugin did not require any changes to the core of Confluence.

The feature that this does not provide is the ability of different users to see different versions of a page. This is a problem for approval workflows, where we want an edit to remain invisible to ‘ordinary’ users until it has been approved.

I've also written up some ideas for a minimal Approval Workflow.

Plugin Information

You will need Java and Groovy development skills to implement this plugin. This is currently provided ‘as-is’ without Atlassian technical support, but you can search for or post questions relating to it in the Developer Forums. Alternatively, the Atlassian partner Saikore now offers paid support.

Workflow Concepts

This section describes the concepts used in building the Workflow Plugin.

Workflow Client
This is the entity whose life cycle is managed by the workflow plugin. In this implementation a client is a Confluence page. The client is responsible for remembering which workflow it is taking part in, remembering its workflow state, and changing this state when told to by the workflow system. A client may (and should) have other state information which is not visible to the workflow system, for instance the contents of a Confluence page are not managed by the workflow system at all.

Workflow Type

This is the set of data which defines a workflow. A workflow type is assembled from collections of States, Operations, Triggers and Actions.

Workflow State

At any time a Workflow Client is in one (and only one) State. This state determines which Operations are available to be performed on the client.

Operation

An Operation may be requested by the user on a Workflow Client. An Operation itself doesn't change any state, either in the workflow system or in the Workflow Client, but simply sends a signal to the Workflow Type that this Operation has been requested on that particular Workflow Client. It is just a description meaningful to a user, associated with a code meaningful to the Workflow Type, together with security rules to determine when the Operation can be performed. The signals sent to the Workflow Type may cause one or more Triggers to fire. Whether an Operation is available on a particular Client depends on the State of the client and the group membership of the current user. In addition to Operations defined in a particular Workflow Type, all Workflow Types recognize page edit and page view operations.

Trigger

A Trigger listens for Operations, and either fires or does not fire, depending on the Operation, its internal state (if any – many simple triggers are stateless) and its implementation. When a Trigger fires it tells the set of Actions it contains to execute.

Examples of Triggers are:
   1. Fire every time you receive a particular event.
   2. Fire after receiving any of a set of events.
   3. Fire after receiving all of a set of events, in any order. (This requires a Trigger which can maintain internal state)

Action

An Action is a piece of code which is executed in response to the firing of a Trigger.

Some Actions interact with the Workflow System:
   2. Create a new Trigger.
   3. Remove a Trigger.

Others interact with Confluence:
   1. Restrict Page Permissions
   2. Remove Page Permissions restriction.
   3. Send Notification to prior editor of page.

Others could interact with the contents of the page itself:
   1. Add 'Draft' warning to page contents.
   2. Validate field values in the page contents.

Using The Prototype Confluence Workflow Plugin

Build and Install the Workflow Plugin

From your Confluence install directory, go to plugins/workflow or access from the Confluence source under src/etc/plugins/workflow. Build the plugin into a JAR file.

Configure groups and permissions

Decide what groups will be involved in the workflow, create them and assign appropriate users to them. Grant suitable permissions to the space.

Create a WorkflowType

You need to create an instance of a class which implements com.atlassian.confluence.extra.workflow.WorkflowType, and register it by passing it to WorkflowManager.registerType().

One way to do this on a test basis is to put your workflow type in a (script) macro. The script macro can be downloaded from here. You’ll need to visit the page after restarting the server.

The example below uses a Groovy script – you could just as well use Beanshell, Jython or JRuby.
Put a `{workflowtype: yourWorkflowTypeName}` macro after your script, so you can see that it is properly creating the WorkflowType.

Create a Workflow Page

To make a page take part in the workflow you have just created, add the `{workflow: workflowTypeName}` macro to the page and hit Update.

You’ll get a workflow box with the option ‘Start Workflow’. Select this and the page will refresh. The workflow box will now indicate that the page is in the starting state for that workflow type.

Monitoring Workflow

You can use the `{workflowTasks}` macro to display a list of all workflow pages which are descendants of the current page. Any task which the viewing user can perform an action on will be starred.

To Do

1. More Trigger types.
3. Easy editing of WorkflowTypes.
4. Workflow of parent can depend on states of children
5. Introduce concept of 'Assignments', where at one workflow step a particular user is assigned to a role which nominates them to perform other operations.
6. Think about the visual style – the current style is good for when workflow is 'out of band', that is, it's an activity undertaken by site maintainers invisible to site users, but doesn't suit a 'Confluence as web-app' application, where workflow should blend in...

Approval Workflow

This page describes the details of an approval workflow.

- Users may be members of an 'author' group which is allowed to edit pages, an 'approver' group which is allowed to approve edited pages, or both groups (in which case they can't approve their own changes) or neither (in which case they are just consumers of the content).
- When an 'author' edits a page, the page goes into a 'editing in progress' state.
- When an author views an 'editing in progress' page, they are presented with an option to submit the page for review. This puts the page into the 'waiting for approval' state.
- Members of the approver group have access to a page in confluence which automatically lists the pages waiting for approval.
- When an 'approver' visits a 'waiting for approval' page, they are presented with options to accept or reject the changes. If they accept the changes, the page goes to the 'accepted' state, where pages spend most of their life, otherwise it goes to the 'rejected' state.
- Members of the 'author' group have access to a page in Confluence where they can see all the pages which they edited which have been rejected, or are waiting for approval. They don't see pages other authors have edited.
- When an author visits a page in the 'rejected' or 'waiting for approval' state, they have the option of withdrawing the change, which moves the page to the accepted state, and rolls back to the most recent approved version.
- When an author edits a page in the rejected state, it moves to the 'editing in progress' state.

All of this can be done with the Workflow Plugin Prototype.

But we probably also want to show consumers the most recently approved version of a page, not the one currently under review. Without core Confluence changes, the best we can do is show users a banner which says "This content is being reviewed. The most recent approved content is here".

XWork-WebWork Plugins

XWork plugin modules enable you to deploy XWork / WebWork actions and views as a part of your plugins.

- For more information about plugins in general, read Confluence Plugin Guide.
- To learn how to install and configure plugins (including macros), read Installing and Configuring Plugins Manually.
- For an introduction to writing your own plugins, read Writing Confluence Plugins

The XWork Plugin Module

Each XWork module is deployed as a plugin module of type xwork and contains one or more XWork package elements.

Here is an example atlassian-plugin.xml file containing a single XWork module:

```xml
<atlassian-plugin name='List Search Macros' key='confluence.extra.livesearch'>
    ...
    <xwork name='livesearchaction' key='livesearchaction'>
        <package name='livesearch' extends='default' namespace="/plugins/livesearch">
            <default-interceptor-ref name='defaultStack' />  
            <action name='livesearch' class='com.atlassian.confluence.extra.livesearch.LiveSearchAction'>  
                <result name='success' type='velocity'>/templates/extra/livesearch/livesearchaction.vm</result>
            </action>
        </package>
    </xwork>
</atlassian-plugin>
```

- the xwork element has no class attribute.
- beneath this element, multiple package elements can be specified. These are standard XWork package elements, just as you would specify in xwork.xml.
Writing an Action

For information on how to write a WebWork action, please consult the WebWork documentation. WebWork actions must implement com.opensymphony.xwork.Action. However, we recommend you make your action extend ConfluenceActionSupport, which provides a number of helper methods and components that are useful when writing an Action that works within Confluence.

Other action base-classes can be found within Confluence, but we recommend you don't use them - the hierarchy of action classes in Confluence is over-complicated, and likely to be simplified in the future in a way that will break your plugins.

Accessing Your Actions

Actions are added to the XWork core configuration within Confluence, which means they are accessed like any other action!

For example, given the above atlassian-plugin.xml, the livesearch action would be accessed at http://yourserver/confluence/plugins/livesearch/livesearch.action.

Notes

Some issues to be aware of when developing or configuring an XWork plugin:

- Your packages should always extend the default Confluence package. It is useful to be aware of what this provides to you in the way of interceptors and result types. Extending any other package will modify that package's configuration across the entire application, which is not supported or desirable.
- You can give your packages any namespace you like, but we recommend using /plugins/unique/value that is prefixing plugin packages with /plugins and then adding a string globally unique to your plugin. The only name you can use is servlet as the /plugins/servlet URL pattern is reserved for Servlet Plugins.
- Views must be bundled in the JAR file in order to be used by your actions. This almost always means using Velocity views.
- It is useful to be aware of the actions and features already bundled with Confluence, for example your actions will all be auto-wired by Spring (see Accessing Confluence Components From Plugin Modules) and your actions can use useful interfaces like PageAware and SpaceAware to reduce the amount of work they need to do.

Important Security Note

If you are writing an XWork plugin, it is very important that you read this security information: XWork Plugin Complex Parameters and Security.

Example

The LiveSearch example is a neat example of an Ajax-style Confluence plugin which uses a bundled XWork module to do it's work:

Find this example in the /plugins/macros/livesearch directory within your Confluence distribution.

XWork Plugin Complex Parameters and Security

This document describes changes that were made to the handling of XWork plugins in Confluence between versions 2.9 and 2.10. All developers writing XWork plugins for Confluence 2.10 and later should take note of this.

Complex XWork Parameters

XWork allows the setting of complex parameters on an XWork action object. For example, a URL parameter of formData.name=Charles will be translated by XWork into the method calls getFormData().setName("Charles") by the XWork parameters interceptor. If getFormData() returns null, XWork will attempt to create a new object of the appropriate return type using its default constructor, and then set it with setFormData(newObject).

This leads to the potential for serious security vulnerabilities in XWork actions, as you can effectively call arbitrary methods on an Action object. This led to the Parameter Injection issues in Confluence Security Advisory 2008-10-14. In Confluence 2.9 this issue was worked around by filtering out all properties that were known to be dangerous, but for 2.10 a more complete solution that also protects against future vulnerabilities has been introduced.

Because this vulnerability (and its solution) can affect plugins, plugin authors must now take extra steps to support complex form parameters.

The @ParameterSafe Annotation

From Confluence 2.10 and onwards, complex parameters are not permitted unless they are accompanied by a Java-level annotation declaring that the parameter is "safe" for XWork to access. There are two ways to apply the annotation:

- If a getter method is annotated with the @com.atlassian.xwork.ParameterSafe annotation, that method is accessible as a complex parameter
- If a class is annotated with the @com.atlassian.xwork.ParameterSafe annotation, any complex parameter that is of that type is accessible

Only the initial method on the XWork action, or initial return value from the action class needs to be annotated, nested complex parameters
do not need further annotation.

So in the example above, to make the formData parameter you would do one of the following:

```java
@ParameterSafe
class FormData {
    ...  
}
```

or:

```java
@ParameterSafe
class FormData {
    ...  
}
```

**Be Careful**

By placing the `@ParameterSafe` annotation on a method or class, you the developer are declaring that you have carefully inspected that code for potential vulnerabilities. Things to be careful of:

- **DO NOT** return live Hibernate persistent objects, as users may change values on them directly with parameters, and then those changes will be saved to the database automatically
- **DO NOT** return objects that contain setter methods that are used for anything but setting form parameter values, as those values will be reachable by URL parameter injection
- **DO NOT** return objects that have Spring-managed beans, live components, or Hibernate objects accessible through getter methods, as they will be accessible to URL parameter injection

Your safest bet is that if you are using an object to store complex parameters, make it a dumb: just setters that store state in the object itself and no further behaviour. Any more functionality than that is dangerous.

### Accessing Confluence Components From Plugin Modules

Confluence is built around *Spring*, an open-source component framework for Java. If you are familiar with Spring, then you may only wish to know that Confluence plugin modules (and their implementing classes) are autowired by name. Thus, if you want to access a Confluence component from your plugin, just include the appropriate setter method in your implementing class.

If you want to write Confluence plugins but are unfamiliar with Spring, the rest of this page should give you more than enough information on how to have your plugin interact with Confluence.

**Interacting with Confluence**

When you are writing anything but the simplest Confluence plugin, you will need to interact with the Confluence application itself in order to retrieve, change or store information. This document describes how this can be done.

#### Manager Objects

At the core of Confluence is a group of “Manager” objects. For example, the `pageManager` is in charge of Confluence pages, the `spaceManager` of spaces, the `attachmentManager` of attachments, and so on.

#### Dependency Injection

Traditionally, in a component-based system, components are retrieved from some kind of central repository. For example, in an EJB-based system, you would retrieve the bean from the application server's JNDI repository.

Confluence works the other way round. When a plugin module is instantiated, Confluence determines which components the module needs, and delivers them to it.

Confluence determines which components a module needs by reflecting on the module's methods. Any method with a signature that matches a standard JavaBeans-style setter of the same name as a Confluence component will have that component passed to it when the module is initialised.

So, if your plugin module needs to access the `pageManager`, all you need to do is put the following setter method on your module's implementing class:

```java
public void setPageManager(PageManager pageManager)
{
    this.pageManager = pageManager;
}
```

#### Manager Classes
There are several dozen managers for different areas of functionality in Confluence. The following table lists some of the more commonly used ones:

<table>
<thead>
<tr>
<th>Manager class</th>
<th>Responsibility</th>
<th>Sample methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>PageManager</td>
<td>Pages, blogs</td>
<td>getPage(), getBlogPost(), getRecentlyAddedPages(), findNextBlogPost(), saveContentEntity()</td>
</tr>
<tr>
<td>SpaceManager</td>
<td>Spaces</td>
<td>getSpace(), getPersonalSpace(), createSpace()</td>
</tr>
<tr>
<td>UserAccessor</td>
<td>Users, groups, preferences</td>
<td>getUser(), addUser(), addMembership(), hasMembership(), getConfluenceUserPreferences(), getUserProfilePicture()</td>
</tr>
<tr>
<td>CommentManager</td>
<td>Comments</td>
<td>getComment(), updateCommentContent()</td>
</tr>
<tr>
<td>LabelManager</td>
<td>Labels</td>
<td>addLabel(), removeLabel(), getCurrentContentForLabel()</td>
</tr>
<tr>
<td>AttachmentManager</td>
<td>Attachment storage and retrieval</td>
<td>getAttachments(Content), getAttachmentData(Attachment), saveAttachment()</td>
</tr>
<tr>
<td>SmartListManager</td>
<td>Searching (2.8 and earlier)</td>
<td>getListQueryResults()</td>
</tr>
<tr>
<td>SearchManager</td>
<td>Searching (2.9 and later)</td>
<td>search(), convertToEntities(), searchEntities()</td>
</tr>
<tr>
<td>ContentEntityManager</td>
<td>Saving and retrieving all content. Parent interface of PageManager, CommentManager, etc.</td>
<td>saveContentEntity(), getVersionHistorySummaries()</td>
</tr>
<tr>
<td>SettingsManager</td>
<td>Global, space, plugin configuration</td>
<td>getGlobalSettings(), updateSpaceSettings(), getPluginSettings()</td>
</tr>
<tr>
<td>I18NBean</td>
<td>Getting localised text</td>
<td>getText(String), getText(String, Object[]), getText(String, List)</td>
</tr>
<tr>
<td>PermissionManager</td>
<td>Checking permissions (do this before calling a manager)</td>
<td>hasPermission(), hasCreatePermission(), isConfluenceAdministrator(), getPermittedEntities()</td>
</tr>
<tr>
<td>SpacePermissionManager</td>
<td>Adding or modifying space permissions</td>
<td>savePermission(), getGlobalPermissions(), getGroupsWithPermissions()</td>
</tr>
<tr>
<td>EventManager</td>
<td>Register listeners or publish events</td>
<td>publishEvent(), registerListener()</td>
</tr>
<tr>
<td>WebInterfaceManager</td>
<td>Rendering web-sections and web-items in Velocity</td>
<td>getDisplayableSections(), getDisplayableItems()</td>
</tr>
</tbody>
</table>

Note that these are all interfaces. The actual implementation will be injected in your class by Spring, if you include the appropriate setter method in your class as described above.

Do not directly use implementations or cast the injected class to a particular implementation. Implementation classes are subject to change across versions without warning. Where possible, interface methods will be marked as deprecated for two major versions before being removed.

**Service Classes**

Managers in Confluence are responsible for the data integrity of their domain, but they are not generally responsible for validation or security. Invalid calls will typically result in a runtime exception. Historically, this wasn’t a major problem, but as time went by there was more duplication of this functionality across actions, remote API methods and plugins. In recent releases, a service layer is being introduced in Confluence to address this.

The services will follow a command pattern, where the service is responsible for creating a command that can then be validated and executed. The following nascent services are available:

<table>
<thead>
<tr>
<th>Service class</th>
<th>Responsibility</th>
<th>Sample commands</th>
</tr>
</thead>
<tbody>
<tr>
<td>CommentService</td>
<td>Comments</td>
<td>CreateCommentCommand, DeleteCommentCommand, EditCommentCommand</td>
</tr>
<tr>
<td>PageService</td>
<td>Pages, blog posts</td>
<td>MovePageCommand</td>
</tr>
<tr>
<td>SearchService (2.9+)</td>
<td>Performing searches</td>
<td></td>
</tr>
</tbody>
</table>

These simpler services don’t follow the command pattern, nor do they perform any data modification. They are generally used to simplify other functionality:

<table>
<thead>
<tr>
<th>Service class</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>HttpRetrievalService</td>
<td>Http Connectivity to External Services</td>
</tr>
</tbody>
</table>
Including Javascript and CSS resources

Good style for web applications requires that JavaScript and CSS for web pages are kept separate to the HTML they enhance. Confluence itself is moving towards this model, and the tools that Confluence uses to do this are also available to plugin developers.

This functionality is only available in Confluence 2.8 and later.

If you are developing a theme plugin and would like to include css resources, see Theme Stylesheets instead.

On this page:
- Including a Custom JavaScript or CSS File from a Plugin
- Web Resource Configuration
- Including a JavaScript Library provided by Confluence
- Running Scripts when the Page Loads
- Achieving Progressive Enhancement
- More Information

Including a Custom JavaScript or CSS File from a Plugin

In your `atlassian-plugin.xml`, you should add a Web Resource module. See Web Resource Plugins.

For each resource, the location of the resource should match the path to the resource in your plugin JAR file. Resource paths are namedpaced to your plugin, so they can't conflict with resources in other plugins with the same location (unike say i18n or Velocity resources). However, you may find it convenient to use a path name which is specific to your plugin to be consistent with these other types.

To include your custom web resource in a page where your plugin is used, you use the `#requireResource` Velocity macro like this:

```
#requireResource("com.acme.example.plugin:web-resource-key")
```

Where "com.acme.example.plugin:web-resource-key" should be your plugin key, a colon, and the key of the web resource module in your plugin.

Only one instance of each script or stylesheet will be included, and they will appear in the order they are requested in the Velocity rendering process.

The rich text editor does not currently use dynamic stylesheets provided by a macro rendered in this way.

Web Resource Configuration

Within your Web Resource plugin module, you will define one or more resource definitions. See Adding Plugin and Module Resources.

Note that you can declare the media type (for CSS resources) and whether the resource should be wrapped in an Internet Explorer conditional comment. This feature is also described in Adding Plugin and Module Resources.

Here is a short example:

```
<web-resource key="my-macro-resources">
    <resource type="download" name="macro.js" location="path/inside/jar/to/js/macro.js"/>
    <resource type="download" name="more-macro-stuff.js" location="path/inside/jar/to/js/more-macro-stuff.js"/>
    <resource type="download" name="macro.css" location="path/inside/jar/to/css/macro.css"/>
    <resource type="download" name="macro-ie.css" location="path/inside/jar/to/css/macro-ie.css">
        <param name="ieonly" value="true"/>
        <param name="title" value="IE styles for My Awesome Macro"/>
    </resource>
    <resource type="download" name="macro-print.css" location="path/inside/jar/to/css/macro-print.css">
        <param name="media" value="print"/>
    </resource>
    <dependency>confluence.web.resources:ajs</dependency> <!-- depends on jQuery/AJS -->
</web-resource>
```

See below for the libraries provided by Confluence which you can include as a dependency.
Including a JavaScript Library provided by Confluence

Confluence currently includes several JavaScript libraries which plugins can use. The versions of these libraries are subject to change, but only across major versions of Confluence.

In the Confluence source code, these libraries are included in a plugin XML file called `web-resources.xml`.

<table>
<thead>
<tr>
<th>Library</th>
<th>Web resource key</th>
<th>Current version</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>jQuery + AJS</td>
<td>confluence.web.resources:ajs</td>
<td>1.2.6</td>
<td>Atlassian's JS abstraction on top of jQuery provides a few additional pieces of functionality.</td>
</tr>
<tr>
<td>jQuery</td>
<td>confluence.web.resources:jquery</td>
<td>1.2.6</td>
<td>For compatibility with prototype, you must use <code>jQuery()</code> not <code>$</code> to access jQuery.</td>
</tr>
</tbody>
</table>

To include one of these libraries in all pages in which your Velocity template appear, simply use the `#requireResource` macro as above. For example, if your macro requires jQuery, add the following to its Velocity template:

```
#requireResource("confluence.web.resources:jquery")
```

Deprecated libraries

Use of Scriptaculous, Prototype and DWR is deprecated. Use of these libraries in Confluence core will be gradually replaced with jQuery over the next few releases. Plugin developers should start doing the same with their front-end code, because these libraries will at some point, be removed in a future release of Confluence.

The 'Prototype' and 'Scriptaculous' libraries will no longer be available in Confluence 3.1.

<table>
<thead>
<tr>
<th>Library</th>
<th>Web resource key</th>
<th>Current version</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scriptaculous</td>
<td>confluence.web.resources:scriptaculous</td>
<td>1.5rc3</td>
<td>Deprecated. Do not use. Includes effects, dragdrop, controls and util.</td>
</tr>
<tr>
<td>Prototype</td>
<td>confluence.web.resources:prototype</td>
<td>1.4.0_pre11</td>
<td>Deprecated. Do not use. Version found in the scriptaculous lib directory. Also includes a domready extension, see domready.js.</td>
</tr>
<tr>
<td>DWR</td>
<td>confluence.web.resources:dwr</td>
<td>1.1.4</td>
<td>Deprecated. Do not use. Includes engine and util.</td>
</tr>
</tbody>
</table>

Running Scripts when the Page Loads

The recommended way to load scripts when the page is ready, known as 'on-DOM-ready', is to use the Atlassian JavaScript (AJS) abstraction. This avoids depending on a particular JavaScript library which may not remain in Confluence.

```
AJS.toInit(function () {
  // ... your initialisation code here
});
```

This has the additional benefit of ensuring any functions or variables you declare here are not in the global scope, which is important for best interoperability with other plugins in Confluence.

Achieving Progressive Enhancement

We recommend you separate your markup, styles and JavaScript when developing a Confluence plugin, according to the design principles of progressive enhancement. To assist with this, there are a few hooks in AJS and in Confluence in general to make this easier.

Dynamic Content in JavaScript

If you need to pass information from Velocity to JavaScript, such as for localised text, you can use `AJS.params`. This automatically looks up values inside fieldsets marked with a class of "parameters" inside your markup. For example, given the following markup:

```
<fieldset class="parameters hidden">
  <input type="hidden" id="deleteCommentConfirmMessage" value="%action.getText('remove.comment.confirmation.message')">
</fieldset>
```

You can have your JavaScript access the localised text without embedding it by using `AJS.params`:

```
AJS.toInit(function () {
  // ... your initialisation code here
});
```
Getting the Context Path

Usually, you can use relative paths in stylesheets and JavaScript to avoid the need to know the context path. However, Confluence makes this available through a meta tag in the header which looks like this:

```html
<meta id="confluence-context-path" name="confluence-context-path" content="/confluence">
```

With jQuery, or even normal JavaScript, it is quite easy to retrieve this for use in scripts:

```javascript
// normal JS
var relativeUrl = (document.getElementById("confluence-context-path").content || ") + "/path/to/content"

// jQuery
var relativeUrl = ($("#confluence-context-path").attr("content") || ") + "/path/to/content";
```

More Information

Could you do this already? What's changed in Confluence 2.8?

Since Confluence 2.6, you've been able to use `#includeJavascript`, which puts the script tag inline, exactly where that Velocity macro appears. You've also always been able to include inline scripts or styles in your macros. However, there are a couple of problems with this that we've solved in 2.8:

1. The JavaScript might override other script already present in the page, including scripts used by Confluence.
2. Inline JavaScript or styles might appear multiple times in the page, wasting bandwidth and potentially causing conflicts.

Many plugin authors found that including JavaScript in their plugins meant the plugin broke in some places, such as in the preview window, if two copies of the macro were on the same page.

By using the new `#requireResource`, you're guaranteed to get only one instance of the script appearing on a page, and it will be cached by browsers until your plugin is upgraded.

Do I have to use Velocity to request these resources? What about in Java?

You can achieve the same result in Java via the WebResourceManager. Use the same method as described above for Velocity:

```java
webResourceManager.requireResource(String)
```

The WebResourceManager is a bean you can get injected by Spring. Do this within the scope of the request.

In most cases, using Velocity makes more sense, because the declaration of the JS and CSS should be close to the code which uses it.

RELATED TOPICS

Web Resource Plugins
Adding Plugin and Module Resources
Writing Confluence Plugins
Installing and Configuring Plugins Manually

Adding Plugin and Module Resources

Confluence plugins may define downloadable resources. If your plugin requires Confluence to serve additional static files such as images, JavaScript or CSS, you will need to use downloadable plugin resources to make them available.

On this page:

- Purpose of a Resource
- Example of a Resource Definition
- Contents of the Resource Definition
- Example of Resource Type: Downloadable Plugin Resources
- Example of Resource Type: Stylesheet referring to Images
- Values for Param Element

Purpose of a Resource

A 'resource' is a non-Java file that a plugin may need in order to operate. Examples of possible resources might be:

- A Velocity file used to generate HTML for a macro or layout plugin module in Confluence.
- A CSS file required by a theme layout plugin module.
- An image referenced from within a layout plugin module.
- A macro help file.
A localisation property file.

Resource definitions can be either a part of the plugin, or part of a particular plugin module.

**Example of a Resource Definition**

Here is a sample resource definition:

```xml
<!-- A resource has a type, a name and a location. The resource definition maps -->
<!-- some arbitrary resource name to where that resource would be located in    -->
<!-- the server's classpath -->
<resource type="velocity" name="template" location="com/example/plugin/template.vm"/>

<!-- For the localisation property file below, it must be named exampleplugin.properties -->
<!-- located under the resources folder -->
<resource type="i18n" name="i18n" location="resources/exampleplugin"/>

<!-- Resources may contain arbitrary key/value pairs -->
<resource type="download" name="style.css" location="com/example/plugin/style.css">
    <property key="content-type" value="text/css"/>
</resource>
```

**Contents of the Resource Definition**

A resource has a name, a type and a location. The resource definition maps an arbitrary resource name to the location of that resource in the server's classpath.

<table>
<thead>
<tr>
<th>Element</th>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;resource&gt;</td>
<td></td>
<td>This block defines the resource. For example: <code>&lt;resource type=&quot;velocity&quot; name=&quot;template&quot; location=&quot;com/example/plugin/template.vm&quot;/&gt;</code></td>
</tr>
</tbody>
</table>
| <resource> | name      | The name of the resource defines how the plugin module can locate a particular resource. Must be specified if 'namePattern' is not. If your location parameter points to a directory rather than a single resource, you should specify the name with a trailing '/'. For example: `<resource type="download" name="myimages/" location="com/example/plugin/myimages"/>

Note that for css/javascript resources, they must have the appropriate file extension in the name i.e. `.css`, `.js` |
| <resource> | namePattern | The pattern to use when loading a directory resource. |
| <resource> | type      | The type of a resource tells the module how that resource can be used. The values allowed are different for each application. A module can look for resources of a certain type or name. For example, a layout plugin requires that its help file is a file of type velocity and name help. Refer to the examples of resource types below. |
| <resource> | location  | The location of a resource tells the plugin where the resource can be found in the jar file. (Resources are loaded by Java's classpath resource loader.)

- The full path to the file (without a leading slash) is required.
- Must end in a '/' when using the 'namePattern' attribute to load multiple resources in a directory. |
| <property> | key/value | Resources may contain arbitrary key/value pairs. For example: `<property key="content-type" value="text/css"/>` |
| <param>    | name/value | Resources may contain arbitrary name/value pairs. For example: `<param name="content-type" value="image/gif"/>`. Refer to the list of values for the param element below |

**Example of Resource Type: Downloadable Plugin Resources**

The simplest kind of resource, supported with all plugin module types, is of type download, which makes a resource available for download from the application at a particular URL.

```xml
<resource type="download" name="aimon.gif" location="templates/extra/impressence/aimon.gif">
    <param name="content-type" value="image/gif"/>
</resource>
```

See Downloadable Plugin Resources.

**Example of Resource Type: Stylesheet referring to Images**

```xml
<resource type="download" name="style.css" location="com/example/plugin/style.css">
    <property key="content-type" value="text/css"/>
</resource>
```
Stylesheets for your plugin may often refer to images also in your plugin. In which case you would have to make both the stylesheet and image(s) downloadable.

```xml
<resource type="download" name="my-images/" location="com/example/plugin/myimages"/>
<resource type="download" name="my-style.css" location="com/example/plugin/my-style.css"/>
```

Note: If you have multiple stylesheets and javascript resources defined, you should put the resource definitions in a Web Resource Module.

To refer to your plugin images in a stylesheet, use a relative path based on the resource name defined for the image (which is 'my-images' in this case).

```css
.my-class {
  background-image: url(my-images/mypicture.gif);
}
```

To reference images already available in an application, you will need to go up three parent directories like so:

```css
.my-class {
  background-image: url(../../../images/icons/confluence-logo.gif);
}
```

**Values for Param Element**

These are the common name/value pairs supported by the `<param>` element.

<table>
<thead>
<tr>
<th>Name</th>
<th>Value (Example)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>content-type</td>
<td>image/gif</td>
<td>Specify a MIME content type.</td>
</tr>
<tr>
<td>media</td>
<td>print</td>
<td>Declare the media type for CSS resources. This is supported by Web Resource plugin modules. For example, requesting this resource will insert a <code>&lt;link&gt;</code> in the HTML header, with a media value of 'print':</td>
</tr>
</tbody>
</table>

```xml
<web-resource key="mechanical-parts" name="Mechanical Parts">
  <i18n-name-key=com.example.confluence.plugin.special.mechanical.parts.name/>
  <resource type="download" name="sprockets.css" location="styles/sprockets.css">
    <param name="media" value="print"/>
  </resource>
</web-resource>
```
ieonly true

Specify that the resource should be wrapped in an Internet Explorer conditional comment. This is supported by V modules.

For example, the web resource declaration below says that the resource should be wrapped in an Internet Explorer conditional comment, which means it will only be used by Internet Explorer. This is useful for IE-specific styling to work around browser bugs.

```xml
<web-resource key="mechanical-parts" name="Mechanical Parts"
i18n-name-key="com.example.confluence.plugin.special.mechanical.parts.name">
  <resource type="download" name="sprockets-ie.css" location="styles/sprockets.css">
    <param name="ieonly" value="true"/>
  </resource>
</web-resource>
```

The HTML output when this resource is included will be something like this:

```html
<!--[if IE]>
<link type="text/css" rel="stylesheet" media="all"
href="/s/1418/13/1.0/_/download/resources/plugin.example:mechanical-parts/sprockets-ie.css"/>
<![endif]-->
```

The `ieonly` parameter also works for JavaScript resources.

<table>
<thead>
<tr>
<th>title</th>
<th>(Your title)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The value given here will form the title attribute of the CSS <code>&lt;link&gt;</code> tag.</td>
<td></td>
</tr>
</tbody>
</table>

RELATED TOPICS

Writing Confluence Plugins

- Enabling TinyMCE Plugins
- Converting a Plugin to Plugin Framework 2
- Creating your Plugin Descriptor
- Confluence Plugin Module Types
- Accessing Confluence Components From Plugin Modules
- Including Javascript and CSS resources
- Adding Plugin and Module Resources
- Adding a Configuration UI for your Plugin
- Ensuring Standard Page Decoration in your Plugin UI
- Making your Plugin Modules State Aware
- Confluence Plugin Tutorials
- Form Token Handling

Information sourced from Plugin Framework documentation

Adding a Configuration UI for your Plugin

On this page:

- Purpose of the Configuration UI
- Adding a Configuration Link for the Entire Plugin
- Adding a Configuration Link for a Module
- Example of a Plugin Configuration UI
- Notes

Purpose of the Configuration UI

A plugin for an Atlassian application can specify internal links within the application, to allow the user to configure options for the plugin. This is useful where your plugin requires configuration or user-specific settings to work.

Here are some examples of plugins which provide a configuration UI:

- The Google Maps plugin for Confluence requires a Google API Key from Google, which needs to be configured on each server, before it will work properly.
- The WebDAV plugin for Confluence provides a configuration screen that is available both from the Plugin Manager and from a web item in the Administration menu.

In Creating your Plugin Descriptor, we tell you how to create the XML descriptor file for your plugin. In Plugin Module Types, we tell you how to define the modules within your plugin. Below is information on defining the links to the configuration UI for your plugin.

Adding a Configuration Link for the Entire Plugin

To add a configuration link for your plugin as a whole, place a single `<param>` element with the name `configure.url` within the
**Adding a Configuration Link for a Module**

To add a configuration link for a single module within your plugin, place a single `<param>` element with the name `configure.url` within the descriptor element for that module:

```
<param name="configure.url">/admin/plugins/gmaps/configureMacro.action</param>
```

**Example of a Plugin Configuration UI**

Here is an image showing where the configuration links appear for both a plugin and an individual module within Confluence:

<table>
<thead>
<tr>
<th>Plugins</th>
<th>Google Maps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Macros</td>
<td>Vendor: Atlassian Software Systems Pty Ltd</td>
</tr>
<tr>
<td></td>
<td>Plugin Version: 0.1</td>
</tr>
<tr>
<td>Attachment Extractors</td>
<td></td>
</tr>
<tr>
<td>Basic Macros</td>
<td></td>
</tr>
<tr>
<td>Compatibiltity Macros</td>
<td>gmap</td>
</tr>
<tr>
<td>Dashboard Macros</td>
<td>gmapManager</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The individual map macro.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Configure plugin</td>
</tr>
<tr>
<td></td>
<td>Disable plugin</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

- You can provide configuration links for a whole plugin and/or for any module within a plugin.
- Configuration links are relative to the application.
- The configuration URL is a link to a separate page, which you have defined using one of the following:
  - A new XWork action that you have defined via an XWork plugin module.
  - Or a servlet defined via a *Servlet* plugin module.
- Not all host applications support configuration links, so you may need to create a web item link in the administration menu to link to your configuration page.

**RELATED TOPICS**

- Writing Confluence Plugins
- Enabling TinyMCE Plugins
- Converting a Plugin to Plugin Framework 2
- Creating your Plugin Descriptor
- Confluence Plugin Module Types
- Accessing Confluence Components From Plugin Modules
- Including Javascript and CSS resources
- Adding Plugin and Module Resources
- Adding a Configuration UI for your Plugin
- Ensuring Standard Page Decoration in your Plugin UI
- Making your Plugin Modules State Aware
- Confluence Plugin Tutorials
- Form Token Handling

Information sourced from Plugin Framework documentation

**Ensuring Standard Page Decoration in your Plugin UI**
On this page:

- Purpose of the Standard Page Decorators
- Specifying a Decorator
- Limitations on Standard Page Decoration in Confluence

**Purpose of the Standard Page Decorators**

Atlassian applications which support Plugin Framework 2.1 and later will also support standard page decorators. This allows your plugin to generate new web pages with consistent decoration by the host application across the Atlassian products.

**Specifying a Decorator**

Specify the decorator with an HTML `meta` tag in your `head` element:

```html
<html>
<head>
  <meta name="decorator" content="atl.general"/>
</head>
```

The following decorators are available:

- `atl.admin` for application administration pages.
- `atl.general` for the header and footer of general pages outside the administration UI.

**Limitations on Standard Page Decoration in Confluence**

In this version of Confluence, the standard page decorators are only available on the following URL patterns:

- `*.action`
- `*.vm`
- `/display/*`
- `/label/*`

Other URLs do not pass through the Sitemesh decoration filter, so the HTML they return will not be decorated.

**Making your Plugin Modules State Aware**

**Description**

The `StateAware` interface can be implemented by plugin modules which need to know when they are enabled or disabled.

**Implementation**

To be notified of enablement/disablement, implement the following in your `Macro Plugins`, `EventListener Plugins` or `Component Plugins`:

```java
public class YourMacro extends BaseMacro implements com.atlassian.plugin.StateAware
```

This has two methods you must implement:
public void enabled()
{
    // Your enablement code goes here.
}

public void disabled()
{
    // Your disablement code goes here.
}

**Call Sequence**

These methods are called in the following circumstances:

**enabled()**
1. At server startup, if the plugin is already installed and enabled.
2. If the plugin is installed via uploading.
3. If the plugin is enabled after having been disabled.
4. If the specific module is enabled after having been disabled.

**disabled()**
1. At server shutdown, if the plugin is installed and enabled.
2. If the plugin is uninstalled.
3. If the plugin is disabled.
4. If the specific module is disabled.

**Notes**

Each method is only called once at each logical enablement/disablement event. Please note that the module class's constructor is *not* a reliable place to put initialisation code either, as the classes are often constructed or destructed more often than they are disabled/enabled. However, once enabled, the same class will remain in memory until it is disabled.

**Known Issues**

**Supported Module Types**

Not all module types have been tested, but the following have the following status:

<table>
<thead>
<tr>
<th>Module Type</th>
<th>Confluence Version</th>
<th>Working</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macro Plugins</td>
<td>2.3.3</td>
<td>✓</td>
</tr>
<tr>
<td>Component Plugins</td>
<td>2.3.3</td>
<td>✓</td>
</tr>
<tr>
<td>Event Listener Plugins</td>
<td>2.3.3</td>
<td>✓</td>
</tr>
<tr>
<td>Lifecycle Plugins</td>
<td>2.3.3</td>
<td>✓</td>
</tr>
</tbody>
</table>

**OSGi Plugin Differences**

The component module type for OSGi (version 2) plugins doesn't support the StateAware interface, as they are implemented differently than non-OSGi (version 1) plugins. To achieve the same effect, you can use the two Spring lifecycle interfaces: InitializingBean and DisposableBean. The init() and destroy() methods on these interfaces will be called when the module is enabled or disabled, exactly like StateAware.

Making this change to a component in an existing plugin will be backwards compatible. That is, a component module in a legacy plugin which implements InitializingBean will have its init() method called when it is enabled, exactly the same as such a component in an OSGi plugin.

For more information about the component module type in OSGi plugins, see Component Plugin Module.

**Confluence Plugin Tutorials**

Below are some useful tutorials on how to write specific Confluence plugins.

- Writing a Macro Plugin
- Userinfo Plugin Tutorial

**Userinfo Plugin Tutorial**
Introduction

This tutorial is being written during the course of the development of a Confluence plugin. It is a demonstration of a number of techniques and tips useful to plugin development, and also of how all the various types of Confluence plugin modules can be combined to add new features to the Confluence application.

The plugin being developed during the course of this tutorial is not just a toy or a random idea that was thought up to write a guide around, it's actually something that we intend to make use of on the Atlassian extranet, fulfilling a real requirement of our business.

I'm hoping to add new chapters to the tutorial each week until it development of the plugin is complete.

Requirements

In order to get the most out of this tutorial, you should have:

1. Confluence 2.2 (the plugin makes use of features that were not available in Confluence 2.1 or earlier)
2. A suitable plugin development environment.

The Plugin

On the Atlassian extranet, which is obviously powered by Confluence, we keep a staff directory. This directory is really just a single Confluence page with a section for each staff member. Here's mine:

![Charles Miller](image)

<table>
<thead>
<tr>
<th>Role:</th>
<th>Lead Confluence Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email:</td>
<td><a href="mailto:charles@atlassian.com">charles@atlassian.com</a></td>
</tr>
<tr>
<td>Personal Space:</td>
<td>Home</td>
</tr>
<tr>
<td>Extension:</td>
<td>13</td>
</tr>
<tr>
<td>Mobile:</td>
<td>0414 366 511</td>
</tr>
<tr>
<td>AIM:</td>
<td>carfishy</td>
</tr>
<tr>
<td>MSN Messenger:</td>
<td><a href="mailto:cmiller@pastiche.org">cmiller@pastiche.org</a></td>
</tr>
<tr>
<td>Yahoo:</td>
<td>carfishie</td>
</tr>
<tr>
<td>ICQ:</td>
<td>1939355</td>
</tr>
<tr>
<td>Skype:</td>
<td></td>
</tr>
</tbody>
</table>

When we started the page, there were only about twenty people in the company. Now we've grown over fifty, it has started to become unwieldy, and with each new hire it gets a little harder to maintain. Thus, the aims of the userinfo plugin are:

- Allow users to maintain their own contact details
- Provide a way to display contact information in wiki pages

Once that's done, we could add more features like:

- A searchable / categorisable staff directory
- vCard export of contact information
- iCal export of staff birthdays

(How many of these we get done really depends on how much time I have to spare 😊)

Contents

- UPT 1 - Getting Started
- UPT 2 - Getting the Data
- UPT 3 - Integrating with the Confluence UI
- UPT 4 - Display the info in a macro

Coming Soon:

- UPT 3 - Integrating with the Confluence UI
- UPT 4 - The userinfo Macro
- More...
UPT 1 - Getting Started

Set up the Plugin Source Directory

First things first, I'm going to need somewhere to put all my source code.

The How to Build an Atlassian Plugin contains a template directory that you can rename to use for your own plugin. Having a standard directory structure is useful, because it allows you to use maven (or the ant tasks packaged in the plugins directory of your Confluence installation) to build your plugin jar. If you use a different directory structure, you'll have to build the plugin yourself.

You'll have to think of a name for your plugin. There are probably better names than userinfo, but I started this late on a Thursday afternoon. Also, you'll need a package name for your Java code. The Java standard for package names is to reverse your company's domain-name, which is exactly what I've done here:

```
I'm going to be doing all my development for this tutorial in the plugins directory of a copy of Confluence 2.2.5 that I downloaded from the Atlassian website
```

**The Unreliable Narrator**

In fact, I'll be doing all of my development in the same development environment I use to develop Confluence itself. I will then be copying it into the aforementioned plugins directory and taking screenshots, and pretending that's how I developed it in the first place.

In cooking shows, this would be called "...and here's one I prepared earlier."

Make an Empty `atlassian-plugin.xml` file.

You'll need to choose a unique plugin key. I can use the `confluence.extra` prefix for my plugin keys because I work at Atlassian. You should make your plugin key the same as the Java package name you chose earlier. You should also fill in the plugin metadata.

```
<atlassian-plugin name="User Information" key='confluence.extra.userinfo'>
  <plugin-info>
    <description>Allows users to store personal data/contact details about themselves</description>
    <vendor name="Atlassian Software Systems" url="http://www.atlassian.com"/>
    <version>1.0</version>
  </plugin-info>
</atlassian-plugin>
```

Once again, there's a template file in the Plugin Development Kit.

Compile and Upload

The plugin can now be built and installed into Confluence. I have no idea why you'd want to do it, but it's sort of necessary to come away from each step in a tutorial with some tangible evidence you've accomplished something. So here's what my new plugin looks like when I upload it into Confluence's plugin manager:
That's it. A plugin with no plugin modules. Next, we write some code!

Downloads

- The source for the empty plugin: userinfo-src-1.tgz
- The compiled empty plugin jar: plugins-userinfo-1.jar

**UPT 2 - Getting the Data**

Planning Ahead

The initial requirements for the userinfo plugin are that I need to:

1. Gather contact data from users, somehow.
2. Display it, somehow.

In this part of the tutorial, I'm going to cover the first step. But in order to do so, I need to decide how I'm going to gather this information.

The traditional wiki way to do this would be through "magic markup". We would define some special Confluence markup (in Confluence that would be a [macro](https://confluence.org/macros)) that users could insert into a page to set their contact information, and have the macro save that somewhere for later retrieval. This approach makes the programmatic interface very simple (you're only ever writing macros), but it doesn't make life particularly easy for users who have to remember, or continually look up, some obscure wiki syntax.

**Metadata Plugin**

The [Metadata Plugin](https://confluence.org/plugins) is an excellent Confluence plugin that does just this. It allows arbitrary metadata to be added to any page through a macro, and then allows you to collate, tabulate and aggregate that data in some pretty cool ways. If we wanted to go the "magic markup" route, I could just stop the tutorial now and say "use the Metadata Plugin instead".

The Metadata Plugin was written by the [Pantero Corporation](https://confluence.org/pantero), and won an honourable mention in our first ever plugin development competition.

Confluence has powerful plugin module types that allow you to modify not only the content of wiki pages, but the functionality of the Confluence application itself. It's those modules that we will be using to gather our users' contact information:

1. XWork-WebWork Plugins to provide the web form
2. Web UI Plugins to add links to the form into the Confluence UI

In this second part of the tutorial, we will concentrate on using an XWork plugin to display a form to the user, and store and retrieve the information they submit.

Writing the Code

- **UPT 2.1 - The UserInfo Bean**
- **UPT 2.2 - The XWork Action Class**
- **UPT 2.3 - The Velocity Template**
- **UPT 2.4 - Defining the XWork Plugin Module**

The End Result

Compiling and uploading the plugin I've written so far gives me the ability to set and edit my user information:
It's a bit ugly, though:

- I have to navigate to the edit URL myself – /users/userinfo/edituserinfo.action – there's no link from the Confluence UI.
- The page doesn't look like it's integrated into Confluence very well. It doesn't fit in to the right navigational structure.

I'll fix those problems in the part three of the tutorial.

Downloads

1. The source code for this tutorial: userinfo-src-2.tgz
2. The compiled plugin jar for this tutorial: plugins-userinfo-2.jar

UPT 2.1 - The UserInfo Bean

The first thing I need is an object to store the user information in. I already know what information I need to store: I'm replicating the contents of our existing staff directory. In Ruby, I'd write something like this:

```ruby
class UserInfo
  attr_accessor :position, :office, :extension, :mobile_phone, :other_phone,
end
```

However, Confluence plugins are written in Java. I've got to write this instead:

```java
package com.atlassian.confluence.extra.userinfo;
import java.io.Serializable;
```
/**
 * Dumb serializable bean so we can fit all the user info in a single property
 */
public class UserInformation implements Serializable {
    private String position;
    private String office;
    private String extension;
    private String mobilePhone;
    private String otherPhone;
    private String aimId;
    private String msnId;
    private String yahooId;
    private String jabberId;
    private String icqId;
    private String skypeId;

    public String getPosition() {
        return position;
    }

    public void setPosition(String position) {
        this.position = position;
    }

    public String getOffice() {
        return office;
    }

    public void setOffice(String office) {
        this.office = office;
    }

    public String getExtension() {
        return extension;
    }

    public void setExtension(String extension) {
        this.extension = extension;
    }

    public String getMobilePhone() {
        return mobilePhone;
    }

    public void setMobilePhone(String mobilePhone) {
        this.mobilePhone = mobilePhone;
    }

    public String getOtherPhone() {
        return otherPhone;
    }

    public void setOtherPhone(String otherPhone) {
        this.otherPhone = otherPhone;
    }

    public String getAimId() {
        return aimId;
    }

    public void setAimId(String aimId) {
        this.aimId = aimId;
    }

    public String getMsnId() {
        return msnId;
    }

    public void setMsnId(String msnId) {
        this.msnId = msnId;
    }

    public String getYahooId()
Luckily, 90% of the typing above can be done for me by any decent Java IDE.

The most important part of the code above is that the object is Serializable. This is what makes it possible to store and retrieve the object later.

**UPT 2.2 - The XWork Action Class**

The Skeleton XWork Action

Confluence uses WebWork 2 as its web framework, which in turn uses a command framework called XWork. XWork plugins allow you to add new commands to Confluence's web framework, which allows you to add pretty much anything to the Confluence web application. For the userinfo plugin, I'm going to add a form page into which users can input their contact details.

I need an action class. It needs to extend ConfluenceActionSupport, a base class that contains the minimum functionality necessary for an action to play well with Confluence.

The Action will also need an instance of the UserInformation object that I defined earlier. I will expose that property with a standard Java getter method, which will make it available when we write our form in the next step.

```java
package com.atlassian.confluence.extra.userinfo;
import com.atlassian.confluence.core.ConfluenceActionSupport;
public class EditUserInfoAction extends ConfluenceActionSupport {
    private UserInformation userInfo = new UserInformation();
    public UserInformation getUserInfo() {
        return userInfo;
    }
}
```

Introducing XStream and the ContentPropertyManager

XStream is a library for serializing Java objects to and from XML. The ContentPropertyManager is a Confluence component that allows you to associate arbitrary properties with any Confluence content object. Every Confluence user has a Content object associated with them, their PersonalInformation.

The combination of these three things is how I am going to store a user's contact details, by adding the following to the EditUserInfoAction.
In the above code, we are relying on the fact that Spring, Confluence’s component manager, will autowire XWork actions (or any other plugin module). If you need a reference to any Confluence component (like the xStream service, ContentPropertyManager or PersonalInformationManager), all you need to do is provide the appropriate setter method, and the component will be provided to the action before it is executed.

From there we can write the code to write and read our contact details from the appropriate content property.

XWork Action Methods

Our XWork action class is going to handle two situations.

1. The user is viewing the ‘edit my contact information’ form. The form should be pre-filled with their contact information
2. The user is submitting changes to the form.

By convention, these two cases are dealt with using the action’s doDefault and execute methods, respectively. For the doDefault method, all I have to do is make sure that the userInfo property contains the user’s up-to-date contact details. getRemoteUser is a method on ConfluenceActionSupport that returns the currently logged-in user.

```java
public String doDefault() throws Exception
{
    userInfo = getUserInformation(getRemoteUser().getName());
    return super.doDefault();
}
```

For the execute method, I have to write the userInfo property back out. For now, let’s assume that XWork is magic, and that by the time execute() is invoked, userInfo has been populated with the values submitted by the user.
One thing I'm not doing here is validating the form input. This is mostly because the data I am collecting requires more effort to validate than it is worth. I don't really care too much if someone types an invalid email address, they can just go fix it themselves.

If you wanted to add validation to the action, you could do so by implementing a validate() method, as described in the XWork custom validation documentation.

UPT 2.3 - The Velocity Template

Having written the model and the controller, it's now time to work on the view. Confluence views are written in Velocity.

Our velocity template needs to draw a form. It needs to populate that form with the UserInformation object we loaded during the doDefault method of the EditUserInfoAction, and submit it back to the action for saving.

I put the velocity file in src/etc/templates/extra/userinfo/edituserinfo.vm.

```html
<html>
<head>
<title>Edit Contact Details</title>
</head>
<body>
<div class="thickPadded">
<form name="edituserinfo.form" method="POST" action="doedituserinfo.action">
<table class="greyBox" width="450" cellpadding="2" cellspacing="4">

  #tag( TextField "label='Position'" "name='userInfo.position'" "size='50'" )
  #tag( TextField "label='Office'" "name='userInfo.office'" "size='50'" )
  #tag( TextField "label='Extension'" "name='userInfo.extension'" "size='4'" )

  <tr><td colspan="2" &nbsp;</td></tr>
  #tag( TextField "label='Mobile Phone'" "name='userInfo.mobilePhone'" "size='20'" )
  #tag( TextField "label='Other Phone'" "name='userInfo.otherPhone'" "size='20'" )
  #tag( TextField "label='AOL Instant Messenger'" "name='userInfo.aimId'" "size='30'" )
  #tag( TextField "label='MSN Messenger'" "name='userInfo.msnId'" "size='30'" )
  #tag( TextField "label='Yahoo!'" "name='userInfo.yahooId'" "size='30'" )
  #tag( TextField "label='Jabber'" "name='userInfo.jabberId'" "size='30'" )
  #tag( TextField "label='ICQ'" "name='userInfo.icqId'" "size='10'" )
  #tag( TextField "label='Skype'" "name='userInfo.skypeId'" "size='30'" )

  <tr><td colspan="2" align="center">
  &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&n
  
  </td></tr>
</table>
</form>
</div>
</body>
</html>
```

Here I'm taking advantage of WebWork Velocity tags to draw the form elements. The velocity tags take care of making the form elements part of the surrounding table, formatting them, filling them with their associated data, and if necessarily associating them with validation errors.

Note that we've called each form userInfo.propertyName. This means that when we submit the form, XWork will call getUserInfo().setPropertyName(value) for each property, thus populating our UserInformation bean before it is saved in the execute() method.

Note also that this HTML is lacking anything to define the Confluence look and feel. SiteMesh will take care of filling in the surrounding detail.

UPT 2.4 - Defining the XWork Plugin Module
Now I've written my action class, I'll need to define a plugin module that adds my class to Confluence's XWork configuration. This is done by adding this section to my `atlassian-plugin.xml` file.

```xml
<xwork name="userinfoactions" key="userinfoactions">
  <description>Actions for manipulating a user's personal information.</description>
  <package name="userinfo" extends="default" namespace="/users/userinfo">
    <default-interceptor-ref name="defaultStack" />
    <action name="edituserinfoinfo" class="com.atlassian.confluence.extra.userinfo.EditUserInfoAction" method="doDefault">
      <result name="input" type="velocity">/templates/extra/userinfo/edituserinfo.vm</result>
    </action>
    <action name="doedituserinfo" class="com.atlassian.confluence.extra.userinfo.EditUserInfoAction">
      <result name="input" type="velocity">/templates/extra/userinfo/edituserinfo.vm</result>
      <result name="success" type="velocity">/templates/extra/userinfo/edituserinfo.vm</result>
    </action>
  </package>
</xwork>
```

Some notes:
- You can read more about XWork plugin modules here: [XWork-WebWork Plugins]
- The `<package>` section is essentially passed verbatim to XWork as if it was an `xwork.xml` file, so the best place to look for more information is the XWork documentation.
- I've define two actions: one for viewing the form, and the other for submitting it.
- Since I'm not doing any input validation, I'm using the `defaultStack` interceptor chain.

**UPT 3 - Integrating with the Confluence UI**

Making it Look Good

I've written my form for entering my contact information, but it doesn't exactly look like a part of the Confluence UI yet. There's no link to it from the regular navigation, and it's not decorated with all of the the Confluence look and feel.

Writing the Code

- UPT 3.1 - Linking Using Web UI Plugins
- UPT 3.2 - Using Inline Decorators

The End Result

The input page for my details is now decorated to look like a part of the user's profile editing screen, and is linked from just where you'd expect to find it:

Downloads

1. The source code for this tutorial: [*userinfo-src-3.tgz*]
2. The compiled plugin jar for this tutorial: [*plugins-userinfo-3.jar*]

**UPT 3.1 - Linking Using Web UI Plugins**

Web UI Plugins allow plugin authors to insert links to their custom actions or servlets directly into the Confluence UI, at predetermined locations. The implementation is pretty simple: for the most part you don't need any custom code to implement them, you just need to add their definitions to `atlassian-plugin.xml`.

For my userinfo plugin, I am going to create a link to my custom action in the user's profile, just where they would edit any of their other account details:

```xml
<web-item key="edituserinfoinfo" name="Edit Profile" section="system.profile.edit/yourprofile" weight="20">
  <label key="Contact Details" />
  <link>/users/userinfo/edituserinfo.action</link>
</web-item>
```

Some notes:
- The `section` attribute determines where in the Confluence UI the item will be inserted. The best way to find out which section is correct is to look at Confluence's default web items in WEB-INF/classes/plugins (they're defined in the -sections.xml and -tabs.xml files)
- You can also define icons for your link, but since this section doesn't use icons, we don't bother.
Now the link points to where we want it to, but when you follow the link, you're blown out of the theme's tab layout. This is what we fix by adding a decorator to the form template.

**UPT 3.2 - Using Inline Decorators**

This is the part of the tutorial with the most voodoo, at least so far. It involves changing the `edituserinfo.vm` file so that it will invoke the correct decorator, which in turn will make the plugin look like it is an integrated part of the Confluence UI. While following the instructions in this page will give you a general idea of what I'm accomplishing, some of the decisions I make, like which decorator to call and which action class to extend, are only applicable to this particular plugin.

The best way to find out what's right for your plugin, if you're not familiar enough with the Confluence codebase to find out for yourself, is to ask on the developer mailing list. This tutorial should at least give you a good idea what questions you need to ask.

**Inline Decorators**

Confluence makes heavy use of the Sitemesh library to lay out pages. Sitemesh works by decorating content. The main decorator, `main.vmd` is applied to each page automatically. You can see this by looking at the results of part 2 of the tutorial. Despite the fact that `edituserinfo.vm` does not contain any of the code for the search bar, top bar or profile links, they're included on the resulting page.

The decorators that are used to build the tab panels and other themeable parts of the Confluence page are invoked manually as inline decorators. In order to make the plugin a part of the profile tab infrastructure, I modify the vm file like this (The full velocity file is [attached `edituserinfo.vm`], this is just the important bit we're adding):

```velocity
#applyDecorator("root")
#decoratorParam("context" "profile")
#decoratorParam("mode" "edit-profile")
#decoratorParam("helper" $action.helper)
#decoratorParam("infopanel-width" "200px")

<!-- the stuff we want decorated -->
@end
```

- You will always be applying the "root" decorator. The root decorator is a dispatcher which chooses the correct theme decorator to apply, based on the context and mode arguments supplied.
- The `profile` context and `edit-profile` mode tell the root decorator that we are displaying the profile tabs, and that we currently have the `edit` tab selected.
- The `helper` must always be passed as a parameter.
- The `infopanel-width` should also be passed, it doesn't really do anything useful but some pages still need it.

**Modifying the Action**

Each inline decorator makes certain assumptions about the action class that it is a result of. For example, when drawing the HTML for the `profile` context, the decorator assumes the existence of a `getUser()` method on the action. The easiest way to ensure that I have all the right methods for the decorator is to find the abstract class that all of the stock Confluence actions that use that decorator extends. In the case of the profile, this is `com.atlassian.confluence.user.actions.AbstractUserProfileAction`. By modifying my `EditUserInfoAction` so that it extends `AbstractUserProfileAction`, the decorator will be able to render successfully.
Form Token Handling

Overview and Purpose

Confluence 3.0 employs a new token authentication mechanism that is utilised when Confluence actions are performed either through link request or form submission. This provides Confluence with the means to validate the origin and intent of the request, thus adding an additional level of security against cross-site request forgery. While the core Confluence product and its bundled plugins use this token handling mechanism by default, non-bundled plugins or those developed by third parties may not.

This document is intended for Confluence plugin developers. It provides instructions on how these developers can add this token handling mechanism to their own plugins. Developers should pay particular attention to the Timeline section, as unmodified plugins may no longer function correctly after the cut-off date.

This change affects:

- Plugins that provide actions via XWork plugin modules
- Plugins that create links to, or submit forms to existing Confluence actions

Form Tokens

Confluence 3.0 requires that WebWork actions possess tokens, which are then verified when the form is submitted back to the Confluence server.

This is an "opt in" mechanism, whereby actions must declare that they require a token to be present in the request. However, in a future version of Confluence, the security policy will switch to a more stringent "opt out" system, where actions must declare that they do not require a token. At this point, any plugin that accepts form submissions and has not been upgraded to use this token authentication mechanism will cease to function.

Instructions for Plugin Developers

Configuring XWork Actions

There are two mechanisms for providing a Form Token configuration for an XWork action:

<table>
<thead>
<tr>
<th>Configuration Location</th>
<th>Steps Required</th>
</tr>
</thead>
</table>
| In the Action class    | 1. Locate the method that is called by the action execution (by default this method is called `execute()`)
|                        | 2. Add the `@com.atlassian.xwork.RequireSecurityToken` annotation to this method:
|                        |   @ RequireSecurityToken(true) if the method will require a token, or
|                        |   @ RequireSecurityToken(false) if it will not. |
| In `atlassian-plugins.xml` | 1. Locate the action definition (the `<action>` element in your `<xwork>` plugin module) |
|                        | 2. Add `<param name="RequireSecurityToken">true</param>` if you wish the action execution to require a token, or change its value to `false` if it does not. |

We recommend developers use the `atlassian-plugins.xml` approach, as it will allow their plugins to be backwards-compatible with older versions of Confluence.

Providing the token in HTML Forms

The Velocity macro `#form_xsrfToken()` will insert the following into your form:

```html
<input type="hidden" name="atl_token" value="[the user's token]">
```

Providing the token in HTML links

The Velocity macro `#url_xsrfToken()` expands to:
So you can do the following

```html
&lt;a href=&quot;myaction.action?activate=true&amp;url_xsrfToken()&quot;\&gt;Activate\&lt;/a&gt;
```

**Providing the token in AJAX calls**

The Atlassian Javascript Library (AJS) contains a method that will add the security token to an AJAX callback. In order to make this method available, you should place the following call in your Velocity template:

```javascript
#requireResource("confluence.web.resources:safe-ajax")
```

This library provides wrappers around jQuery AJAX functions that will include the form token in the AJAX submission. If you are not using the jQuery AJAX functions, you should first update your code to use them directly, then to use the safe version. The following functions are provided:

- AJS.safe.ajax()
- AJS.safe.get()
- AJS.safe.post()
- AJS.safe.getScript()
- AJS.safe.getJSON()

**Accessing the token programatically**

To get hold of the current user's token, you will need to make the following call:

```java
new com.atlassian.xwork.SimpleXsrfTokenGenerator().generateToken(httpServletRequest)
```

For best long-term compatibility, you should retrieve the name of the form parameter to set from the token generator rather than using the literal string "atl_token". For example:

```java
HttpServletRequest req = ServletActionContext.getRequest();
if (req != null) {
    XsrfTokenGenerator tokenGenerator = new SimpleXsrfTokenGenerator();
    myWebRequest.addParameter(tokenGenerator.getXsrfTokenName(),
        tokenGenerator.generateToken(req));
    // or: myRequestUrl.append("&" + tokenGenerator.getXsrfTokenName() + "=" +
        tokenGenerator.generateToken(req));
} else {
    // We are not in a web context. Handle this error cleanly.
}
```

**Scripting**

Scripts that access Confluence remotely may have trouble acquiring or returning a security token, or maintaining an HTTP session with the server. There is a way for scripts to opt out of token checking by providing the following HTTP header in the request:

```http
X-Atlassian-Token: no-check
```

**Timeline**

**Confluence 3.0**

- Confluence 3.0 will ship with the token generation/checking code in "opt out" mode.

**The Future**

- Our plans are to switch Confluence to ship with a more strict "opt out" protection in the future. At this point, plugins that have not been modified to use form tokens may cease to function.
- We will give more information on these plans once the exact timing is finalised and warn of the changes in advance to give developers time to test plugin compatibility.
RELATED TOPICS

For more information, refer to the Open Web Application Security Project page.

Internationalising Confluence Plugins

Text in Confluence plugins can be internationalised to cater for a variety of locales or languages. To do this, you will need to create a translated copy of the properties file(s) for each plugin and bundle these inside your language pack plugin. Having a properties file in each plugin allows plugin authors to provide internationalised plugins without having to add their i18n keys to Confluence’s core source.

Confluence comes bundled with a few plugins that are stored in a file called `atlassian-bundled-plugins.zip`. The basic process for translating a plugin is:

1. Extract this zip to a directory
2. Extract the plugin JAR
3. Locate the properties file which contains i18n keys (examples are below)
4. Copy this file to the same location in your plugin. For example, if it is in path/to/file.properties, it needs to be in the same place in your language pack JAR with a locale extension: `path/to/file_jp_JP.properties`
5. Repeat this for all plugins that can be internationalised

Below is a list of bundled plugins that can be internationalised and the properties file you will need to translate (correct as of Confluence 2.7):

<table>
<thead>
<tr>
<th>Plugin Name</th>
<th>Filename</th>
<th>18N Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usage Statistics Plugin</td>
<td>usage-tracking-plugin-&lt;version&gt;.jar</td>
<td>resources/stats/usage.properties</td>
</tr>
<tr>
<td>Atlassian Plugin Repository</td>
<td>atlassian-plugin-repository-confluence-plugin-&lt;version&gt;.jar</td>
<td>resources/18n/repository-templates.properties</td>
</tr>
<tr>
<td>Clickr Theme</td>
<td>clickr-theme-plugin-&lt;version&gt;.jar</td>
<td>clickr.properties</td>
</tr>
<tr>
<td>Mail Page Plugin</td>
<td>mail-page-plugin-&lt;version&gt;.jar</td>
<td>resources/mailpage.properties</td>
</tr>
<tr>
<td>Social Bookmarking Plugin</td>
<td>socialbookmarking-&lt;version&gt;.jar</td>
<td>com/atlassian/confluence/plugins/socialbookmarking/18n.properties</td>
</tr>
<tr>
<td>WebDAV Plugin</td>
<td>webdav-plugin-&lt;version&gt;.jar</td>
<td>com/atlassian/confluence/extra/webdav/text.properties</td>
</tr>
<tr>
<td>Charting Plugin</td>
<td>chart-plugin-&lt;version&gt;.jar</td>
<td>chart.properties</td>
</tr>
<tr>
<td>TinyMCE (Rich Text) Editor</td>
<td>atlassian-tinymce-plugin-&lt;version&gt;.jar</td>
<td>com/atlassian/confluence/extra/tinymceplugin/tinymce.properties</td>
</tr>
</tbody>
</table>

Below are the system plugins (found in `confluence/WEB-INF/lib/`) that can be internationalised and the properties file you will need to translate:

<table>
<thead>
<tr>
<th>Plugin Name</th>
<th>Filename</th>
<th>18N Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Plugin</td>
<td>confluence-information-plugin-&lt;version&gt;.jar</td>
<td>information.properties</td>
</tr>
<tr>
<td>Layout Plugin</td>
<td>confluence-layout-plugin-&lt;version&gt;.jar</td>
<td>layout.properties</td>
</tr>
<tr>
<td>Livesearch Plugin</td>
<td>confluence-livesearch-plugin-&lt;version&gt;.jar</td>
<td>livesearch.properties</td>
</tr>
<tr>
<td>Dynamic Tasklist Plugin</td>
<td>confluence-dynamictasklist-plugin-&lt;version&gt;.jar</td>
<td>dynamictasklist.properties</td>
</tr>
</tbody>
</table>

Remote API Specification
Introduction

Confluence provides remote APIs as both XML-RPC and SOAP. This document refers to the XML-RPC specification, see SOAP details below. XML-RPC and SOAP are both remote choices, as they have bindings for almost every language making them very portable.

Which should I use?

- SOAP is generally more useful from a strongly typed language (like Java or C#) but these require more setup.
- XML-RPC is easier to use from a scripting language (like Perl, Python, AppleScript etc) and hence is often quicker to use.

⚠️ Looking for the JIRA remote APIs? They are here.

XML-RPC Information

Some borrowed from the (VPWik specification):

- The URL for XML-RPC requests is http://<<confluence-install>>/rpc/xmlrpc.
- All XML-RPC methods must be prefixed by `confluence. - to indicate this is version 1 of the API. We might introduce another version in the future. For example to call the `getPage` method, the method name is `confluence.getPage`.
- All keys in structs are case sensitive.
- All strings are decoded according to standard XML document encoding rules. Due to a bug in Confluence versions prior to 2.8, strings sent via XML-RPC are decoded using the JVM platform default encoding (CONF-10213) instead of the XML encoding.
- Confluence uses 64 bit long values for things like object IDs, but XML-RPC's largest supported numeric type is int32. As such, all IDs and other long values must be converted to Strings when passed through XML-RPC API.
- Anywhere you see the word Vector, you can interchange it with "Array" or "List" depending on what language you prefer. This is the array data type as defined in the XML-RPC spec.
- Anywhere you see the word Hashtable, you can interchange it with "Struct" or "Dictionary" or "Map" depending on what language you prefer. This is the struct data type as defined in the XML-RPC spec.
- The default session lifetime is 30 minutes, but that can be controlled by the deployer from the applicationContext.xml file. This can be found in the /confluence/WEB-INF/lib/confluence-x.jar file.

SOAP Information

The SOAP API follows the same methods as below, except with typed objects (as SOAP allows for).

To find out more about the SOAP API, simply point your SOAP ‘stub generator’ at the WSDL file, located at

1139

For reference, the confluence.atlassian.com WSDL file is here.

The Confluence Command Line Interface is a good place to get a functioning client.

### Remote Methods

#### Authentication Methods

- `String login(String username, String password)` - log in a user. Returns a String authentication token to be passed as authentication to all other remote calls. It's not bulletproof auth, but it will do for now. Must be called before any other method in a 'remote conversation'. From 1.3 onwards, you can supply an empty string as the token to be treated as being the anonymous user.
- `boolean logout(String token)` - remove this token from the list of logged in tokens. Returns true if the user was logged out, false if they were not logged in in the first place.

#### Administration

- `String exportSite(String token, boolean exportAttachments)` - exports a Confluence instance and returns a String holding the URL for the download. The boolean argument indicates whether or not attachments ought to be included in the export.
- `ClusterInformation getClusterInformation(String token)` - returns information about the cluster this node is part of.
- `Vector getClusterNodeStatuses(String token)` - returns a Vector of NodeStatus objects containing information about each node in the cluster.
- `boolean isPluginEnabled(String token, String pluginKey)` - returns true if the plugin is installed and enabled, otherwise false.
- `boolean installPlugin(String token, String pluginFileName, byte[] pluginData)` - installs a plugin in Confluence. Returns false if the file is not a JAR or XML file. Throws an exception if the installation fails for another reason.

#### General

- `ServerInfo getServerInfo(String token)` - retrieve some basic information about the server being connected to. Useful for clients that need to turn certain features on or off depending on the version of the server. (Since 1.0.3)

#### Spaces

#### Retrieval

- `Vector getSpaces(String token)` - returns all the Spaces that the current user can see.
- `Space getSpace(String token, String spaceKey)` - returns a single Space. If the spaceKey does not exist: earlier versions of Confluence will throw an Exception. Later versions (3.0+) will return a null object.
- `string importSpace(String token, byte[] zippedImportData)` - import a space into Confluence. Note that this uses a lot of memory - about 4 times the size of the upload. The data provided should be a zipped XML backup, the same as exported by Confluence.

#### Management

- `Space addSpace(String token, Space space)` - create a new space, passing in name, key and description.
- `Boolean removeSpace(String token, String spaceKey)` - remove a space completely.
- `Space addPersonalSpace(String token, Space personalSpace, String userName)` - add a new space as a personal space.
- `boolean convertToPersonalSpace(String token, String userName, String spaceKey, String newSpaceName, boolean updateLinks)` - convert an existing space to a personal space.
- `Space storeSpace(String token, Space space)` - create a new space if passing in a name, key and description or update the properties of an existing space. Only name, homepage or space group can be changed.
- `boolean importSpace(String token, byte[] zippedImportData)` - import a space into Confluence. Note that this uses a lot of memory - about 4 times the size of the upload. The data provided should be a zipped XML backup, the same as exported by Confluence.

#### Pages

#### Retrieval

- `Vector getPages(String token, String spaceKey)` - returns all the PageSummaries in the space. Doesn't include pages which are in the Trash. Equivalent to calling `Space.getCurrentPages()`.
- `Page getPage(String token, String pageId)` - returns a single Page.
- `Page getPage(String token, String spaceKey, String pageTitle)` - returns a single Page.
- `Vector getPageHistory(String token, String pageId)` - returns all the PageHistorySummaries - useful for looking up the previous versions of a page, and who changed them.

#### Permissions

- `Vector getContentPermissionSets(String token, String contentId)` - returns all the page level permissions for this page as `ContentPermissionSets`
- `Hashtable getContentPermissionSet(String token, String contentId, String permissionType)` - returns the set of permissions on a page as a map of type to a list of `ContentPermission`, for the type of permission which is either 'View' or 'Edit'.
- `Boolean setContentPermissions(String token, String contentId, String permissionType, Vector permissions)` - sets the page-level permissions for a particular permission type (either 'View' or 'Edit') to the provided vector of `ContentPermissions`. If an empty list of permissions are passed, all page permissions for the given type are removed. If the existing list of permissions are passed, this method does nothing.
Dependencies

- Vector getAttachments(String token, String pageld) - returns all the Attachments for this page (useful to point users to download them with the full file download URL returned).
- Vector getAncestors(String token, String pageld) - returns all the ancestors (as PageSummaries) of this page (parent, parent's parent etc).
- Vector getChildren(String token, String pageld) - returns all the direct children (as PageSummaries) of this page.
- Vector getDescendants(String token, String pageld) - returns all the descendents (as PageSummaries) of this page (children, children's children etc).
- Vector getComments(String token, String pageld) - returns all the comments for this page.
- Comment COMMENT getComment(String token, String commentId) - returns an individual comment.
- Comment COMMENT addComment(String token, Comment comment) - adds a comment to the page.
- boolean removeComment(String token, String commentId) - removes a comment from the page.

Management

- Page storePage(String token, Page page) - adds or updates a page. For adding, the Page given as an argument should have space, title and content fields at a minimum. For updating, the Page given should have id, space, title, content and version fields at a minimum. The parentId field is always optional. All other fields will be ignored. Note: the return value can be null, if an error that did not throw an exception occurred.
- String renderContent(String token, String spaceKey, String pageId, String content) - returns the HTML rendered content for this page. If 'content' is provided, then that is rendered as if it were the body of the page (useful for a 'preview page' function). If it's not provided, then the existing content of the page is used instead (ie useful for 'view page' function).
- String renderContent(String token, String spaceKey, String pageld, String content, Hashtable parameters) - Like the above renderContent(), but you can supply an optional hash (map, dictionary, etc) containing additional instructions for the renderer. Currently, only one such parameter is supported:
  - "style = clean" Setting the "style" parameter to "clean" will cause the page to be rendered as just a single block of HTML within a div, without the HTML preamble and stylesheet that would otherwise be added.
- void removePage(String token, String pageId) - removes a page
- void movePage(String sourcePageId, String targetPageId, String position) - moves a page's position in the hierarchy.
  - sourcePageId - the id of the page to be moved.
  - targetPageId - the id of the page that is relative to the sourcePageId page being moved.
  - position - "above", "below", or "append". (Note that the terms 'above' and 'below' refer to the relative vertical position of the pages in the page tree.)
- void movePageToTopLevel(String pageId, String targetSpaceKey) - moves a page to the top level of the target space. This corresponds to PageManager - movePageToTopLevel.

Position Keys for Moving a Page

<table>
<thead>
<tr>
<th>Position Key</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>above</td>
<td>source and target become/remain sibling pages and the source is moved above the target in the page tree.</td>
</tr>
<tr>
<td>below</td>
<td>source and target become/remain sibling pages and the source is moved below the target in the page tree.</td>
</tr>
<tr>
<td>append</td>
<td>source becomes a child of the target.</td>
</tr>
</tbody>
</table>

Attachments - new in version 2.0

Retrieval

- Attachment getAttachment(String token, String pageld, String fileName, String versionNumber) - get information about an attachment.
- byte[] getAttachmentData(String token, String pageld, String fileName, String versionNumber) - get the contents of an attachment.

To retrieve information or content from the current version of an attachment, use a 'versionNumber' of "0".

Management

- Attachment addAttachment(String token, long contentId, Attachment attachment, byte[] attachmentData) - add a new attachment to a content entity object. Note that this uses a lot of memory - about 4 times the size of the attachment. The 'long contentId' is actually a String pageld for XML-RPC.
- boolean removeAttachment(String token, String contentId, String fileName) - remove an attachment from a content entity object.
- boolean moveAttachment(String token, String originalContentId, String originalName, String newContentEntityId, String newName) - move an attachment to a different content entity object and/or give it a new name.

Blog Entries

- Vector getBlogEntries(String token, String spaceKey) - returns all the BlogEntrySummaries in the space.
- BlogEntry getBlogEntry(String token, String pageld) - returns a single BlogEntry.
- BlogEntry storeBlogEntry(String token, BlogEntry entry) - add or update a blog entry. For adding, the BlogEntry given as an argument should have space, title and content fields at a minimum. For updating, the BlogEntry given should have id, space, title, content and version fields at a minimum. All other fields will be ignored.
- BlogEntry getBlogEntryByDayAndTitle(String token, String spaceKey, int dayOfMonth, String postTitle) - Retrieves a blog post in the Space with the given spaceKey, with the title 'postTitle' and posted on the day 'dayOfMonth'.

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Search

- Vector search(String token, String query, int maxResults) - return a list of SearchResults which match a given search query (including pages and other content types). This is the same as a performing a parameterised search (see below) with an empty parameter map.
- Vector search(String token, String query, Map parameters, int maxResults) - (since 1.3) like the previous search, but you can optionally limit your search by adding parameters to the parameter map. If you do not include a parameter, the default is used instead.

Parameters for Limiting Search Results

<table>
<thead>
<tr>
<th>key</th>
<th>description</th>
<th>values</th>
<th>default</th>
</tr>
</thead>
<tbody>
<tr>
<td>spaceKey</td>
<td>search a single space</td>
<td>(any valid space key)</td>
<td>Search all spaces</td>
</tr>
<tr>
<td>type</td>
<td>Limit the content types of the items to be returned in the search results.</td>
<td>page blogpost mail comment attachment spacedescription personalinformation</td>
<td>Search all types</td>
</tr>
<tr>
<td>modified</td>
<td>Search recently modified content</td>
<td>TODAY YESTERDAY LASTWEEK LASTMONTH</td>
<td>No limit</td>
</tr>
<tr>
<td>contributor</td>
<td>The original creator or any editor of Confluence content. For mail, this is the person who imported the mail, not the person who sent the email message.</td>
<td>Username of a Confluence user.</td>
<td>Results are not filtered by contributor</td>
</tr>
</tbody>
</table>

Security

- Vector getPermissions(String token, String spaceKey) - Returns a Vector of Strings representing the permissions the current user has for this space (a list of "view", "modify", "comment" and / or "admin").
- Vector getPermissionsForUser(String token, String spaceKey, String userName) - Returns a Vector of Strings representing the permissions the given user has for this space. (since 2.1.4)
- Vector getPagePermissions(String token, String pageId) - Returns a Vector representing the permissions set on the given page.
- Vector getSpaceLevelPermissions(String token) - returns all of the space level permissions which may be granted. This is a list of possible permissions to use with addPermissionToSpace, below, not a list of current permissions on a Space.
  - boolean addPermissionToSpace(String token, String permission, String remoteEntityName, String spaceKey) - Give the entity named remoteEntityName (either a group or a user) the permission permission on the space with the key spaceKey.
  - boolean removePermissionFromSpace(String token, String permission, String remoteEntityName, String spaceKey) - Remove the permission permission from the entity named remoteEntityName (either a group or a user) the permissions permissions on the space with the key spaceKey.

- boolean addAnonymousPermissionToSpace(String token, String permission, String spaceKey) - Give anonymous users the permission permission on the space with the key spaceKey. (since 2.0)
- boolean addAnonymousPermissionsToSpace(String token, Vector permissions, String spaceKey) - Give anonymous users the permissions permissions on the space with the key spaceKey. (since 2.0)
- boolean removeAnonymousPermissionFromSpace(String token, String permission, String spaceKey) - Remove the permission permission from anonymous users on the space with the key spaceKey. (since 2.0)

- boolean removeAllPermissionsForGroup(String token, String groupname) - Remove all the global and space level permissions for groupname.

Space permissions

Names are as shown in Space Admin > Permissions. Values can be passed to security remote API methods above which take a space permission parameter.

<table>
<thead>
<tr>
<th>Permission name</th>
<th>String value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>View</td>
<td>VIEWSPACE</td>
<td>View all content in the space</td>
</tr>
<tr>
<td>Pages - Create</td>
<td>EDITSPACE</td>
<td>Create new pages and edit existing ones</td>
</tr>
<tr>
<td>Pages - Export</td>
<td>EXPORTPAGE</td>
<td>Export pages to PDF, Word</td>
</tr>
<tr>
<td>Pages - Restrict</td>
<td>SETPAGEPERMISSIONS</td>
<td>Set page-level permissions</td>
</tr>
<tr>
<td>Pages - Remove</td>
<td>REMOVEPAGE</td>
<td>Remove pages</td>
</tr>
</tbody>
</table>
## User Management

- **User**
  - `getUser(String token, String username)` - get a single user
  - `addUser(String token, User user, String password)` - add a new user with the given password
  - `addGroup(String token, String group)` - add a new group
  - `getGroups(String token)` - gets all groups
  - `hasUser(String token, String username)` - checks if a user exists
  - `getGroup(String token, String groupName)` - checks if a group exists
  - `editUser(String token, RemoteUser remoteUser)` - edits the details of a user
  - `deactivateUser(String token, String username)` - deactivates the specified user
  - `reactivateUser(String token, String username)` - reactivates the specified user
  - `getUserInformation(String token, UserInformation userInfo)` - retrieves user information
  - `changeUserPassword(String token, String username, String newPass)` - changes the specified user's password
  - `addProfilePicture(String token, String userName, String fileName, String mimeType, byte[] pictureData)` - add and set the profile picture for a user.
  - `setUserInformation(String token, UserInformation userInfo)` - updates user information
  - `deactivateUser(String token, String username)` - deactivates the specified user
  - `reactivateUser(String token, String username)` - reactivates the specified user
  - `hasGroup(String token, String groupname)` - checks if a group exists
  - `removeGroup(String token, String groupname, String defaultGroupName)` - remove a group. If `defaultGroupName` is specified, users belonging to `groupname` will be added to `defaultGroupName`.
  - `addUserToGroup(String token, String username, String groupname)` - add a user to a particular group
  - `removeUserFromGroup(String token, String username, String groupName)` - removes a user from a particular group
  - `getUserGroups(String token, String username)` - get a user's current groups
  - `getActiveUsers(String token, String username)` - returns all registered users
  - `getSpacesWithLabel(String token, String labelName)` - returns all spaces that have been labelled with `labelName`.
  - `getSpacesContainingContentWithLabel(String token, String labelName)` - returns all spaces that have content labelled with `labelName`.

- **Space**
  - `getSpaces(String token)` - get all spaces
  - `exportSpace(String token, String spaceKey)` - export space to PDF, HTML or XML

- **Attachment**
  - `addAttachment(String token, String spaceKey, String path, String mimeType)` - adds an attachment to a page or news item
  - `removeAttachment(String token, String spaceKey, String path)` - removes an attachment

- **Mail**
  - `removeMail(String token, String spaceKey)` - remove mail

## Labels

- `getLabelsById(String token, long objectId)` - Returns all `Labels` for the given `ContentEntityObject ID`
- `getMostPopularLabels(String token, int maxCount)` - Returns the most popular `Labels` for the Confluence instance, with a specified maximum number.
- `getMostPopularLabelsInSpace(String token, String spaceKey, int maxCount)` - Returns the most popular `Labels` for the given `spaceKey`, with a specified maximum number of results.
- `getRecentlyUsedLabels(String token, int maxResults)` - Returns the recently used `Labels` for the Confluence instance, with a specified maximum number of results.
- `getRecentlyUsedLabelsInSpace(String token, String spaceKey, int maxResults)` - Returns the recently used `Labels` for the given `spaceKey`, with a specified maximum number of results.
- `getRelatedLabels(String token, String labelName, int maxResults)` - Returns the `Labels` related to the given label name, with a specified maximum number of results.
- `getRelatedLabelsInSpace(String token, String labelName, String spaceKey, int maxResults)` - Returns the `Labels` related to the given label name for the given `spaceKey`, with a specified maximum number of results.
- `getLabelContentById(String token, long labelId)` - Returns the content for a given label ID
- `getLabelContentByObject(String token, String labelName, String namespace, String spaceKey, String owner)` - Retrieves the `Labels` matching the given `labelName`, `namespace`, `spaceKey` or `owner`.
- `getLabelContentByObject(String token, String labelName, String spaceKey)` - Returns the content for a given label name.
- `getLabelByAttachment(String token, String labelId, long objectID)` - Returns the label content for a given label ID
  - `getLabelByAttachment(String token, String labelId, long objectID)` - Returns labels for a particular label ID
  - `getLabelByObject(String token, ContentEntityObject ID)` - Returns labels for a particular label ID
  - `addLabelByAttachment(String token, long labelId, long objectID)` - Adds a label to the given object with the given `LabelObject ID`
  - `addLabelByObject(String token, String labelName, long objectID)` - Adds a label to the object with the given `ContentObject ID`.
  - `addLabelByObjectName(String token, String labelName, String spaceKey)` - Adds a label by name to the object with the given `ContentObject ID`.
  - `removeLabelByAttachment(String token, long labelId, long objectID)` - Removes the label from the object with the given `LabelObject ID`
  - `removeLabelByObject(String token, String labelName, long objectID)` - Removes the label from the object with the given `ContentObject ID`.
  - `removeLabelByObjectName(String token, String labelName, String spaceKey)` - Removes the label by name from the object with the given `ContentObject ID`.
  - `addLabelByObjectNameToSpace(String token, String labelName, String spaceKey)` - Adds a label to the object with the given `ContentObject ID`.
  - `removeLabelByObjectNameToSpace(String token, String labelName, String spaceKey)` - Removes the label from the object with the given `ContentObject ID`.

## News

- **Edit**
  - `editBlog(String token, String spaceKey)` - edit news items and edit existing ones
  - `editComment(String token, String spaceKey)` - add comments to pages or news in the space

<table>
<thead>
<tr>
<th>Action</th>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>News - Create</td>
<td><code>editBlog(String token, String spaceKey)</code></td>
<td>Create news items and edit existing ones</td>
</tr>
<tr>
<td>News - Remove</td>
<td><code>removeBlog(String token, String spaceKey)</code></td>
<td>Remove news</td>
</tr>
<tr>
<td>Comments - Create</td>
<td><code>comment(String token, String spaceKey)</code></td>
<td>Add comments to pages or news in the space</td>
</tr>
<tr>
<td>Comments - Remove</td>
<td><code>removeComment(String token, String spaceKey)</code></td>
<td>Remove the user's own comments</td>
</tr>
<tr>
<td>Attachments - Create</td>
<td><code>createAttachment(String token, String spaceKey)</code></td>
<td>Add attachments to pages and news</td>
</tr>
<tr>
<td>Attachments - Remove</td>
<td><code>removeAttachment(String token, String spaceKey)</code></td>
<td>Remove attachments</td>
</tr>
<tr>
<td>Mail - Remove</td>
<td><code>removeMail(String token, String spaceKey)</code></td>
<td>Remove mail</td>
</tr>
<tr>
<td>Space - Export</td>
<td><code>exportSpace(String token, String spaceKey)</code></td>
<td>Export space to PDF, HTML or XML</td>
</tr>
<tr>
<td>Space - Admin</td>
<td><code>setSpacePermissions(String token, String spaceKey)</code></td>
<td>Administer the space</td>
</tr>
</tbody>
</table>
Data Objects

Most returned structs have a summary and a detailed form:

- The summary form is a primary key (ie space key, page id) and a representative form (ie space name, page title)
- The detailed form will have all of the entity details as might be needed for the client.

Unless otherwise specified, all returned structs are in detailed form.

ServerInfo

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>majorVersion</td>
<td>int</td>
<td>the major version number of the Confluence instance</td>
</tr>
<tr>
<td>minorVersion</td>
<td>int</td>
<td>the minor version number of the Confluence instance</td>
</tr>
<tr>
<td>patchLevel</td>
<td>int</td>
<td>the patch-level of the Confluence instance</td>
</tr>
<tr>
<td>buildId</td>
<td>String</td>
<td>the build ID of the Confluence instance (usually a number)</td>
</tr>
<tr>
<td>developmentBuild</td>
<td>Boolean</td>
<td>Whether the build is a developer-only release or not</td>
</tr>
<tr>
<td>baseUrl</td>
<td>String</td>
<td>The base URL for the confluence instance</td>
</tr>
</tbody>
</table>

Note: Version 1.0.3 of Confluence would be major-version: 1, minor-version: 0, patch-level: 3. Version 2.0 would have a patch-level of 0, even if it's not visible in the version number.

SpaceSummary

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>key</td>
<td>String</td>
<td>the space key</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>the name of the space</td>
</tr>
<tr>
<td>type</td>
<td>String</td>
<td>type of the space</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this space online</td>
</tr>
</tbody>
</table>

Space

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>key</td>
<td>String</td>
<td>the space key</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>the name of the space</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this space online</td>
</tr>
<tr>
<td>homepage</td>
<td>String</td>
<td>the id of the space homepage</td>
</tr>
<tr>
<td>description</td>
<td>String</td>
<td>the HTML rendered space description</td>
</tr>
</tbody>
</table>

PageSummary

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>the id of the page</td>
</tr>
<tr>
<td>space</td>
<td>String</td>
<td>the key of the space that this page belongs to</td>
</tr>
<tr>
<td>parentid</td>
<td>String</td>
<td>the id of the parent page</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>the title of the page</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this page online</td>
</tr>
<tr>
<td>locks</td>
<td>int</td>
<td>the number of locks current on this page</td>
</tr>
</tbody>
</table>

Page
<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>the id of the page</td>
</tr>
<tr>
<td>space</td>
<td>String</td>
<td>the key of the space that this page belongs to</td>
</tr>
<tr>
<td>parentid</td>
<td>String</td>
<td>the id of the parent page</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>the title of the page</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this page online</td>
</tr>
<tr>
<td>version</td>
<td>int</td>
<td>the version number of this page</td>
</tr>
<tr>
<td>content</td>
<td>String</td>
<td>the page content</td>
</tr>
<tr>
<td>created</td>
<td>Date</td>
<td>timestamp page was created</td>
</tr>
<tr>
<td>creator</td>
<td>String</td>
<td>username of the creator</td>
</tr>
<tr>
<td>modified</td>
<td>Date</td>
<td>timestamp page was modified</td>
</tr>
<tr>
<td>modifier</td>
<td>String</td>
<td>username of the page's last modifier</td>
</tr>
<tr>
<td>homePage</td>
<td>Boolean</td>
<td>whether or not this page is the space's homepage</td>
</tr>
<tr>
<td>locks</td>
<td>int</td>
<td>the number of locks current on this page</td>
</tr>
<tr>
<td>contentStatus</td>
<td>String</td>
<td>status of the page (eg. current or deleted)</td>
</tr>
<tr>
<td>current</td>
<td>Boolean</td>
<td>whether the page is current and not deleted</td>
</tr>
</tbody>
</table>

**PageHistorySummary**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>the id of the historical page</td>
</tr>
<tr>
<td>version</td>
<td>int</td>
<td>the version of this historical page</td>
</tr>
<tr>
<td>modifier</td>
<td>String</td>
<td>the user who made this change</td>
</tr>
<tr>
<td>modified</td>
<td>Date</td>
<td>timestamp change was made</td>
</tr>
<tr>
<td>versionComment</td>
<td>String</td>
<td>the comment made when the version was changed</td>
</tr>
</tbody>
</table>

**BlogEntrySummary**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>the id of the blog entry</td>
</tr>
<tr>
<td>space</td>
<td>String</td>
<td>the key of the space that this blog entry belongs to</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>the title of the blog entry</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this blog entry online</td>
</tr>
<tr>
<td>locks</td>
<td>int</td>
<td>the number of locks current on this page</td>
</tr>
<tr>
<td>publishDate</td>
<td>Date</td>
<td>the date the blog post was published</td>
</tr>
</tbody>
</table>

**BlogEntry**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>the id of the blog entry</td>
</tr>
<tr>
<td>space</td>
<td>String</td>
<td>the key of the space that this blog entry belongs to</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>the title of the page</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this blog entry online</td>
</tr>
<tr>
<td>version</td>
<td>int</td>
<td>the version number of this blog entry</td>
</tr>
<tr>
<td>content</td>
<td>String</td>
<td>the blog entry content</td>
</tr>
<tr>
<td>locks</td>
<td>int</td>
<td>the number of locks current on this page</td>
</tr>
</tbody>
</table>

**RSS Feed**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>String</td>
<td>the URL of the RSS feed</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>the feed's title</td>
</tr>
</tbody>
</table>

**Search Result**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>title</td>
<td>String</td>
<td>the feed's title</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the remote URL needed to view this search result online</td>
</tr>
<tr>
<td>excerpt</td>
<td>String</td>
<td>a short excerpt of this result if it makes sense</td>
</tr>
<tr>
<td>type</td>
<td>String</td>
<td>the type of this result - page, comment, spacedesc, attachment, userinfo, blogpost</td>
</tr>
<tr>
<td>id</td>
<td>String</td>
<td>the long ID of this result (if the type has one)</td>
</tr>
</tbody>
</table>

**Attachment**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>numeric id of the attachment</td>
</tr>
<tr>
<td>pageId</td>
<td>String</td>
<td>page ID of the attachment</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>title of the attachment</td>
</tr>
<tr>
<td>fileName</td>
<td>String</td>
<td>file name of the attachment (Required)</td>
</tr>
<tr>
<td>fileSize</td>
<td>String</td>
<td>numeric file size of the attachment in bytes</td>
</tr>
<tr>
<td>contentType</td>
<td>String</td>
<td>mime content type of the attachment (Required)</td>
</tr>
<tr>
<td>created</td>
<td>Date</td>
<td>creation date of the attachment</td>
</tr>
<tr>
<td>creator</td>
<td>String</td>
<td>creator of the attachment</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>url to download the attachment online</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>comment for the attachment (Required)</td>
</tr>
</tbody>
</table>

**Comment**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>numeric id of the comment</td>
</tr>
<tr>
<td>pageId</td>
<td>String</td>
<td>page ID of the comment</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>title of the comment</td>
</tr>
<tr>
<td>content</td>
<td>String</td>
<td>notated content of the comment (use renderContent to render)</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>url to view the comment online</td>
</tr>
<tr>
<td>created</td>
<td>Date</td>
<td>creation date of the attachment</td>
</tr>
<tr>
<td>creator</td>
<td>String</td>
<td>creator of the attachment</td>
</tr>
</tbody>
</table>

**User**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>String</td>
<td>the username of this user</td>
</tr>
<tr>
<td>fullname</td>
<td>String</td>
<td>the full name of this user</td>
</tr>
<tr>
<td>email</td>
<td>String</td>
<td>the email address of this user</td>
</tr>
</tbody>
</table>
### ContentPermission

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>type</td>
<td>String</td>
<td>The type of permission. One of 'View' or 'Edit'</td>
</tr>
<tr>
<td>userName</td>
<td>String</td>
<td>The username of the user who is permitted to see or edit the content. Null if this is a group permission.</td>
</tr>
<tr>
<td>groupName</td>
<td>String</td>
<td>The name of the group who is permitted to see or edit the content. Null if this is a user permission.</td>
</tr>
</tbody>
</table>

### ContentPermissionSet

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>type</td>
<td>String</td>
<td>The type of permission. One of 'View' or 'Edit'</td>
</tr>
<tr>
<td>contentPermissions</td>
<td>List</td>
<td>The permissions. Each item is a ContentPermission.</td>
</tr>
</tbody>
</table>

### Label

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>String</td>
<td>the name of the label</td>
</tr>
<tr>
<td>owner</td>
<td>String</td>
<td>the username of the owner</td>
</tr>
<tr>
<td>namespace</td>
<td>String</td>
<td>the namespace of the label</td>
</tr>
<tr>
<td>id</td>
<td>String</td>
<td>the ID of the label</td>
</tr>
</tbody>
</table>

### UserInformation

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>username</td>
<td>String</td>
<td>the username of this user</td>
</tr>
<tr>
<td>content</td>
<td>String</td>
<td>the user description</td>
</tr>
<tr>
<td>creatorName</td>
<td>String</td>
<td>the creator of the user</td>
</tr>
<tr>
<td>lastModifierName</td>
<td>String</td>
<td>the url to view this user online</td>
</tr>
<tr>
<td>version</td>
<td>int</td>
<td>the version</td>
</tr>
<tr>
<td>id</td>
<td>String</td>
<td>the ID of the user</td>
</tr>
<tr>
<td>creationDate</td>
<td>Date</td>
<td>the date the user was created</td>
</tr>
<tr>
<td>lastModificationDate</td>
<td>Date</td>
<td>the date the user was last modified</td>
</tr>
</tbody>
</table>

### ClusterInformation

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>isRunning</td>
<td>boolean</td>
<td>true if this node is part of a cluster.</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>the name of the cluster.</td>
</tr>
<tr>
<td>memberCount</td>
<td>int</td>
<td>the number of nodes in the cluster, including this node (this will be zero if this node is not clustered.)</td>
</tr>
<tr>
<td>description</td>
<td>String</td>
<td>a description of the cluster.</td>
</tr>
<tr>
<td>multicastAddress</td>
<td>String</td>
<td>the address that this cluster uses for multicast communication.</td>
</tr>
<tr>
<td>multicastPort</td>
<td>String</td>
<td>the port that this cluster uses for multicast communication.</td>
</tr>
</tbody>
</table>

### NodeStatus
Confluence 3.0 Documentation

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>nodeId</td>
<td>int</td>
<td>an integer uniquely identifying the node within the cluster.</td>
</tr>
<tr>
<td>jvmStats</td>
<td>Map</td>
<td>a Map containing attributes about the JVM memory usage of node. Keys are &quot;total.memory&quot;, &quot;free.memory&quot;, &quot;used.memory&quot;.</td>
</tr>
<tr>
<td>props</td>
<td>Map</td>
<td>a Map containing attributes of the node. Keys are &quot;system.date&quot;, &quot;system.time&quot;, &quot;system.favourite.colour&quot;, &quot;java.version&quot;, &quot;java.vendor&quot;, &quot;jvm.version&quot;, &quot;jvm.vendor&quot;, &quot;jvm.implementation.version&quot;, &quot;java.runtime&quot;, &quot;java.vm&quot;, &quot;user.name.word&quot;, &quot;user.timezone&quot;, &quot;operating.system&quot;, &quot;os.architecture&quot;, &quot;fs.encoding&quot;.</td>
</tr>
<tr>
<td>buildStats</td>
<td>Map</td>
<td>a Map containing attributes of the build of Confluence running on the node. Keys are &quot;confluence.home&quot;, &quot;system.uptime&quot;, &quot;system.version&quot;, &quot;build.number&quot;.</td>
</tr>
</tbody>
</table>

Script Examples

The Confluence Extension space contains various examples of scripts

Changelog

**Confluence 2.9**

- Search: Removed option 'all' in table of content types and changed the default to 'All'. If you need to search for all types, simply omit the 'type' restriction.
- Search: Added option 'contributor' to the table of filter options.

**2.3**

- Added getClusterInformation and getClusterNodeStatuses.

**2.2**

- Added addPersonalSpace, convertToPersonalSpace and addProfilePicture.

**2.1.4**

- Added getPermissionsForUser.

**2.0**

- Updated getLocks() to getPagePermissions()
- Added addAttachment, getAttachment, getAttachmentData, removeAttachment and moveAttachment methods to allow remote attachment handling. Note that adding large attachments with this API uses a lot of memory during the addAttachment operation.
- Added addAnonymousPermissionToSpace, addAnonymousPermissionsToSpace and removeAnonymousPermissionFromSpace.
- Added the addComment and removeComment methods for comment manipulation.
- Added hasGroup and hasUser methods to determine if a group or user exists.
- Added editUser method.
- Added ability to deactivate and reactivate users.
- Added getActiveUsers method to retrieve a user list.
- Added ability to change the user password.
- Added ability to retrieve and modify user information.
- Added ability to retrieve, add and remove labels.
- Added getBlogEntryByDayAndTitle

**1.4**

- Added new exportSpace and exportSite methods to build exports of an individual space or an entire Confluence instance and return with a URL leading to the download.
- Added new getChildren and getDescendents methods to get the direct children and all descendents of a given page.
- Added new getAncestors method to get the ancestors of a given page.
- Removed the old getLocks as locks are superceded by page level permissions.
- Added new getPagePermissions method to retrieve page level permissions.
- Added new removeUser, removeGroup, removeAllPermissionsForGroup, addUserToGroup and removeUserFromGroup methods.
- Added new addPermissionToSpace method.
- Added new Permission data object.
- Added new getSpaceLevelPermissions method.

**1.3**
• Added new `getPage` method which retrieves a page by space key and page title.
• Added new `removeSpace` method to remove an entire space.
• Added ability to limit search by parameters.
• Allow anonymous access.

1.2

• `renderContent` takes an optional hashtable for rendering hints, the only one supported right now is "style=clean"

1.1

• `getLocks` gives you back a list of any locks that apply to a given page
• added a `locks` field to the various `Page` structs containing a count of any applicable page-level locks
• CRUD methods added for blog-posts

1.0.3

• `getServerInfo` gives you some basic information about the server version CONF1123
• `storePage` now allows you to change the page's name (incoming links are all renamed) CONF-974
• `storePage` now reliably allows you to re-parent pages
• WSDL now respects the server's configured base URL, allowing it to work on proxy-hosted servers CONF-1088

RELATED TOPICS

• Building Confluence From Source Code
• Confluence Architecture
• Confluence Developer FAQ
• Confluence Developer Forum
• Confluence Plugin Guide
• Remote API Specification
• Remote API Specification 2.4

Extending the V2 search API

If none of the bundled `SearchQuery`, `SearchSort`, `SearchFilter` or `ResultFilter` implementations fits your requirements, you can write your own implementation.

Writing your Own SearchQuery

To illustrate how to write your own `SearchQuery`, we will take a look at how the bundled `CreatorQuery` was written.

Implement `SearchQuery`

First of all, you need to implement `SearchQuery`. This is a generic simple Java object representing your custom search.

```java
public class CreatorQuery implements SearchQuery {
    private static final String KEY = "creator";

    private final String creator;

    public CreatorQuery(String creator) {
        this.creator = creator;
    }

    public String getKey() {
        return KEY;
    }

    public String getCreator() {
        return creator;
    }

    public List getParameters() {
        return Collections.singletonList(getCreator());
    }
}
```

Comments:

• Search query objects should be immutable.
They should be constructed with all the required input to complete the query. In this case, we query on the creator username, so this is passed as a constructor parameter.

Input should be exposed via an accessor. This will be used by the mapper, which we'll discuss below.

Your query should have a unique key to identify it. This allows us to configure a mapper to map this type of query — more on this below.

Implement LuceneQueryMapper

The responsibility of the Lucene query mapper is to convert a generic search query POJO (plain old java object) to the actual Lucene search query.

Comments:

- The contract of the LuceneQueryMapper is to return a org.apache.lucene.search.Query given a Confluence v2 search query object.
- We call getCreator() on CreatorQuery and use it to construct the Lucene query.

Add your custom LuceneQueryMapper as a plugin in atlassian-plugins.xml

A new plugin type has been introduced for custom Lucene query mappers using the lucene-query-mapper tag. You should add this to your plugin descriptor and define what v2 search query objects it can handle.

Comments:

- The handles attribute should be set to the unique keys you defined for your custom search query objects (that is, CreatorQuery.KEY in this example).
- If you want to handle multiple query types with your mapper, you can declare this by specifying a <handles>creator</handles> sub tag for each type supported.
- The key attribute is a value to uniquely identify this mapper plugin.

RELATED TOPICS

- Remote API Specification

API documentation

Remote API Specification for PDF Export

In Confluence 3.0, we moved the PDF export engine to a Confluence plugin. Therefore, you can no longer use Confluence's built-in remote API to export a space as a PDF. There is a new replacement API that is part of the new PDF export Confluence plugin.

On this page:

- XML-RPC Information
- SOAP Information
  - Methods

XML-RPC Information

- The URL for XML-RPC requests is http://<<confluence-install>>/rpc/xmlrpc.
- All XML-RPC methods must be prefixed by pdfexport.

SOAP Information
To find out more about the SOAP API, simply point your SOAP 'stub generator' at the WSDL file, located at http://<confluence-install>/rpc/soap-axis/pdfexport?wsdl.

For reference, the pdfexport WSDL file is here.

Methods

- `String login(String username, String password) - log in a user. Returns a String authentication token to be passed as authentication to all other remote calls. It's not bulletproof auth, but it will do for now. Must be called before any other method in a 'remote conversation'. From 1.3 onwards, you can supply an empty string as the token to be treated as being the anonymous user.
- `public String exportSpace(String token, String spaceKey) - exports the entire space as a PDF. Returns a url to download the exported PDF. Depending on how you have Confluence set up, this URL may require you to authenticate with Confluence. Note that this will be normal Confluence authentication, not the token based authentication that the web service uses.

Searching using the V2 Search API

The v2 search API provides a fast way of searching content within Confluence. We highly recommend that all plugin authors switch to this API where possible.

To illustrate how to use this API, we have included a simple code snippet for a basic search that:

- searches for all content labelled with `administration` in the space with key `DOC`.
- sorts these results with the latest modified content displayed first.
- limits the number of results to 10.

```java
SearchQuery query = BooleanQuery.composeAndQuery(new LabelQuery("administration"), new InSpaceQuery("DOC"));
SearchSort sort = new ModifiedSort(SearchSort.Order.DESCENDING); // latest modified content first
SearchFilter securityFilter = SiteSearchPermissionsSearchFilter.getInstance();
ResultFilter resultFilter = new SubsetResultFilter(10);
Search search = new Search(query, sort, securityFilter, resultFilter);
SearchResults searchResults;
try {
    searchResults = searchManager.search(search);
} catch (InvalidSearchException e) {
    // discard search and assign empty results
    searchResults = LuceneSearchResults.EMPTY_RESULTS;
}

// iterating over search results
for (SearchResult searchResult : searchResults.getAll()) {
    System.out.println("Title: " + searchResult.getDisplayTitle());
    System.out.println("Content: " + searchResult.getContent());
    System.out.println("SpaceKey: " + searchResult.getSpaceKey());
}

// total number of results found
System.out.println("Total number of results: " + searchResults.getUnfilteredResultsCount());
```

Further comments:

- Please ensure you include `com.atlassian.confluence.search.v2.searchfilter.SiteSearchPermissionsSearchFilter` in your search. This is a bundled filter that will handle permission checking and content filtering automatically for you.
- The number of results returned has been limited with the use of `com.atlassian.confluence.search.v2.filter.SubsetResultFilter`. This class efficiently filters search results during search time.
- The search is executed using `searchManager.search(search)`. This invocation returns search results populated with data from your index.
  - To iterate over the search results returned, you can get a reference to the list of search results with `searchResults.getAll()` or an iterator to this list using `searchResults.iterator()`.
  - Common information about a search result like title, body and space key can be extracted from the search result using `getDisplayTitle()`, `getContent()` and `getSpaceKey()` respectively. For more accessors see the API documentation for `com.atlassian.confluence.search.v2.SearchResult`.
  - This invocation does not go to the database to construct any search results. If you want to get results from the database to be returned by the search, call `searchManager.searchEntities(search)` instead.
- An exception `com.atlassian.confluence.search.v2.InvalidSearchException` is thrown when either:
  - there is an error mapping a v2 search object to the corresponding Lucene search object, or
  - no mapper could be found to map one of the search objects. (The mapper plugin responsible for mapping this search may have been uninstalled.)
- You should simply discard the search if an exception is thrown as described above.
Introduction

Confluence provides remote APIs as both XML-RPC and SOAP. This document refers to the XML-RPC specification, see SOAP details below. XML-RPC and SOAP are both remote choices, as they have bindings for almost every language making them very portable.

Which should I use?

- SOAP is generally more useful from a strongly typed language (like Java or C#) but these require more setup.
- XML-RPC is easier to use from a scripting language (like Perl, Python, AppleScript etc) and hence is often quicker to use.

Looking for the JIRA remote APIs? They are here.

XML-RPC

Read Me First!

XML-RPC notes: (some borrowed from the VPWik specification)

- The URL for XML-RPC requests is http://confluence-install/rpc/xmlrpc.
- All XML-RPC methods must be prefixed by confluence1. to indicate this is version 1 of the API. We might introduce another version in the future. For example to call the getPage method, the method name is confluence1.getPage.
- All keys in structs are case sensitive.
- All strings are passed as UTF-8, and not ASCII per the XML-RPC update on 6/30/2003.
- Confluence uses 64 big long values for things like object IDs, but XML-RPC’s largest supported numeric type is int32. As such, all IDs and other long values must be converted to Strings when passed through XML-RPC API.
- Anywhere you see the word Vector, you can interchange it with “Array” or “List” depending on what language you prefer. This is the array data type as defined in the XML-RPC spec.
- Anywhere you see the word Hashtable, you can interchange it with “Struct” or “Dictionary” or “Map” depending on what language you prefer. This is the struct data type as defined in the XML-RPC spec.
- The default session lifetime is 30 minutes, but that can be controlled by the deployer from the applicationContext.xml file.

SOAP

The SOAP API follows the same methods as below, except with typed objects (as SOAP allows for).

To find out more about the SOAP API, simply point your SOAP ‘stub generator’ at the WSDL file, located at http://<confluence-install>/rpc/soap-axis/confluenceservice-v1?wsdl.

For reference, the confluence.atlassian.com WSDL file is here.

Changelog

2.4

Following methods were added:

- storeSpace
- importSpace
- getSpacesInGroup
- addSpaceGroup
Added new SpaceGroup data object.

2.3

- Added getClusterInformation and getClusterNodeStatuses.

2.2

- Added addPersonalSpace, convertToPersonalSpace and addProfilePicture.

2.1.4

- Added getPermissionsForUser.

2.0

- Updated getLocks() to getPagePermissions()
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- Added hasGroup and hasUser methods to determine if a group or user exists.
- Added editUser method.
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- Added ability to change the user password.
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- Added ability to retrieve, add and remove labels.
- Added getBlogEntryByDayAndTitle

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- Added new getAncestors and getDescendants methods to get the direct children and all descendents of a given page.
- Removed the old getLocks as locks are superceded by page level permissions.
- Added new getSpaceLevelPermissions method to retrieve page level permissions.
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- Added new addPermissionToSpace method.
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- getServerInfo gives you some basic information about the server version CONF1123
- storePage now allows you to change the page's name (incoming links are all renamed) CONF-974
- storePage now reliably allows you to re-parent pages
- WSDL now respects the server's configured base URL, allowing it to work on proxy-hosted servers CONF-1088
Remote Methods

Authentication Methods

- **String login(String username, String password)** - login a user. Returns a String authentication token to be passed as authentication to all other remote calls. It's not bulletproof auth, but it will do for now. Must be called before any other method in a 'remote conversation'. From 1.3 onwards, you can supply an empty string as the token to be treated as being the anonymous user.
- **boolean logout(String token)** - remove this token from the list of logged in tokens. Returns true if the user was logged out, false if they were not logged in in the first place (we don't really need this return, but void seems to kill XML-RPC for me)

Administration

- **String exportSite(String token, boolean exportAttachments)** - exports a Confluence instance and returns a String holding the URL for the download. The boolean argument indicates whether or not attachments ought to be included in the export.
- **ClusterInformation getClusterInformation(String token)** - returns information about the cluster this node is part of.
- **Vector getClusterNodeStatuses(String token)** - returns a Vector of NodeStatus objects containing information about each node in the cluster.

General

- **ServerInfo getServerInfo(String token)** - retrieve some basic information about the server being connected to. Useful for clients that need to turn certain features on or off depending on the version of the server. (Since 1.0.3)

Spaces

Retrieval

- **Vector getSpaces(String token)** - returns all the SpaceSummaries that the current user can see.
- **Vector getSpacesInGroup(String token, String spaceGroupKey)** - returns all the SpaceSummaries from a given group that the current user can see.
- **Space getSpace(String token, String spaceKey)** - returns a single Space.
- **boolean storeSpace(String token, Hashtable Space)** - Allows for modifying space details. Currently you can update the name, homepage and spaceGroup properties of a space. Note that changing the space key and other properties will have no effect.

Management

- **Space addSpace(String token, Space space)** - create a new space, passing in name, key and description.
- **Boolean removeSpace(String token, String spaceKey)** - remove a space completely.
- **Space addPersonalSpace(String token, Space personalSpace, String userName)** - add a new space as a personal space.
- **boolean convertToPersonalSpace(String token, String userName, String spaceKey, String newSpaceName, boolean updateLinks)** - convert an existing space to a personal space.
- **String exportSpace(String token, String spaceKey, String exportType)** - exports a space and returns a String holding the URL for the download. The export type argument indicates whether or not to export in XML, PDF, or HTML format - use "TYPE_XML", "TYPE_PDF", or "TYPE_HTML" respectively. Also, using "all" will select TYPE_XML.
- **boolean importSpace(String token, byte[] importData)** - import a space in a compressed XML format.

SpaceGroups

Retrieval

- **SpaceGroup addSpaceGroup(String token, SpaceGroup spaceGroup)** - create a new space group passing in a SpaceGroup data object
- **Vector spaceGroups(String token)** - returns all the SpaceGroups in Confluence. Requires Confluence Administrator permission.
- **boolean removeSpaceGroup(String token, String spaceGroupKey)** - removes the SpaceGroup with the given key from the system. The contained spaces will not be deleted. Requires Confluence Administrator permission.

Management

Pages

Retrieval

- **Vector getPages(String token, String spaceKey)** - returns all the PageSummaries in the space. Doesn't include pages which are in the Trash. Equivalent to calling Space.getCurrentPages().
- **Page getPage(String token, String pageId)** - returns a single Page
- **Page getPage(String token, String spaceKey, String pageTitle)** - returns a single Page
- **Vector getPageHistory(String token, String spaceKey, String pageId)** - returns all the PageHistorySummaries - useful for looking up the previous versions of a page, and who changed them.
- **Vector getPagePermissions(String token, String pageId)** - returns the page level permissions for this page (since 1.4)

Dependencies

- **Vector getAttachments(String token, String pageId)** - returns all the Attachments for this page (useful to point users to download
them with the full file download URL returned).

- Vector getAncestors(String token, String pageId) - returns all the ancestors (as PageSummaries) of this page (parent, parent's parent etc).
- Vector getChildren(String token, String pageId) - returns all the direct children (as PageSummaries) of this page.
- Vector getDescendents(String token, String pageId) - returns all the descendents (as PageSummaries) of this page (children, children's children etc).
- Vector getComments(String token, String pageId) - returns all the comments for this page.
- Comment getComment(String token, String commentId) - returns an individual comment.
- Comment addComment(String token, Comment comment) - adds a comment to the page.
- boolean removeComment(String token, String commentId) - removes a comment from the page.

Management

- Page storePage(String token, Page page) - add or update a page. For adding, the Page given as an argument should have space, title and content fields at a minimum. For updating, the Page given should have id, space, title, content and version fields at a minimum. The parentid field is always optional. All other fields will be ignored.
- String renderContent(String token, String spaceKey, String pageId, String content) - returns the HTML rendered content for this page. If 'content' is provided, then that is rendered as if it were the body of the page (useful for a 'preview page' function). If it's not provided, then the existing content of the page is used instead (ie useful for 'view page' function).
- String renderContent(String token, String spaceKey, String pageId, String content, Hashtable parameters) - Like the above renderContent(), but you can supply an optional hash (map, dictionary, etc) containing additional instructions for the renderer. Currently, only one such parameter is supported:
  - "style = clean" Setting the "style" parameter to "clean" will cause the page to be rendered as just a single block of HTML within a div, without the HTML preamble and stylesheet that would otherwise be added.
- void removePage(String token, String pageId) - remove a page

Attachments - new in version 2.0

Retrieval

- Attachment getAttachment(String token, String pageId, String fileName, String versionNumber) - get information about an attachment.
- byte[] getAttachmentData(String token, String pageId, String fileName, String versionNumber) - get the contents of an attachment.

Management

- Attachment addAttachment(String token, long contentId, Attachment attachment, byte[] attachmentData) - add a new attachment to a content entity object. Note that this uses a lot of memory - about 4 times the size of the attachment. The 'long contentId' is actually a String pageId for XML-RPC.
- boolean removeAttachment(String token, String contentId, String fileName) - remove an attachment from a content entity object.
- boolean moveAttachment(String token, String originalContentId, String originalName, String newContentEntityId, String newName) - move an attachment to a different content entity object and/or give it a new name.

Blog Entries

- Vector getBlogEntries(String token, String spaceKey) - returns all the BlogEntrySummaries in the space.
- BlogEntry getBlogEntry(String token, String pageId) - returns a single BlogEntry.
- BlogEntry storeBlogEntry(String token, BlogEntry entry) - add or update a blog entry. For adding, the BlogEntry given as an argument should have space, title and content fields at a minimum. For updating, the BlogEntry given should have id, space, title, content and version fields at a minimum. All other fields will be ignored.
- BlogEntry getBlogEntryByDayAndTitle(String token, String spaceKey, int dayOfMonth, String postTitle) - Retrieves a blog post in the Space with the given spaceKey, with the title 'postTitle' and posted on the day 'dayOfMonth'.

Search

- Vector search(String token, String query, int maxResults) - return a list of SearchResults which match a given search query (including pages and other content types). This is the same as a performing a parameterised search (see below) with an empty parameter map.
- Vector search(String token, String query, Map parameters, int maxResults) - (since 1.3) like the previous search, but you can optionally limit your search by adding parameters to the parameter map. If you do not include a parameter, the default is used instead.

Parameters for Limiting Search Results

<table>
<thead>
<tr>
<th>key</th>
<th>description</th>
<th>values</th>
<th>default</th>
</tr>
</thead>
<tbody>
<tr>
<td>spaceKey</td>
<td>search a single space</td>
<td>(any valid space key)</td>
<td>Search all spaces</td>
</tr>
<tr>
<td>type</td>
<td>Limit types of search results to return</td>
<td>all page blogpost mail comment attachment spacedescription personalinformation</td>
<td>All except mail</td>
</tr>
</tbody>
</table>
### Security

- **`Vector getPermissions(String token, String spaceKey)`** - Returns a Vector of Strings representing the permissions the current user has for this space (a list of "view", "modify", "comment" and / or "admin").
- **`Vector getPermissionsForUser(String token, String spaceKey, String userName)`** - Returns a Vector of Strings representing the permissions the given user has for this space. (since 2.1.4)
- **`Vector getPerPagePermissions(String token, String pageId)`** - Returns a Vector of Permissions representing the permissions set on the given page.
- **`Vector getSpaceLevelPermissions(String token)`** - returns all of the space level permissions which may be granted. This is a list of possible permissions to use with `addPermissionToSpace`, below, not a list of current permissions on a Space.

- **`boolean addPermissionToSpace(String token, String permission, String remoteEntityName, String spaceKey)`** - Give the entity named `remoteEntityName` (either a group or a user) the permission permission on the space with the key `spaceKey`.
- **`boolean addPermissionsToSpace(String token, Vector permissions, String remoteEntityName, String spaceKey)`** - Give the entity named `remoteEntityName` (either a group or a user) the permissions permissions on the space with the key `spaceKey`.
- **`boolean removePermissionFromSpace(String token, String permission, String remoteEntityName, String spaceKey)`** - Remove the permission permission from the entity named `{remoteEntityName`(either a group or a user) on the space with the key `spaceKey`.

- **`boolean addAnonymousPermissionToSpace(String token, String permission, String spaceKey)`** - Give anonymous users the permission permission on the space with the key `spaceKey`. (since 2.0)

- **`boolean addAnonymousPermissionsToSpace(String token, Vector permissions, String spaceKey)`** - Give anonymous users the permissions permissions on the space with the key `spaceKey`. (since 2.0)

- **`boolean removeAnonymousPermissionFromSpace(String token, String permission, String spaceKey)`** - Remove the anonymous permission from the space with the key `spaceKey`.

### User Management

- **`User getUser(String token, String username)`** - get a single user
- **`void addUser(String token, User user, String password)`** - add a new user with the given password

- **`void addUser(String token, String username, String password)`** - add a new user with the given password

- **`Vector getGroups(String token)`** - gets all groups

- **`boolean hasGroup(String token, String group)`** - checks if a group exists

- **`boolean hasUser(String token, String username)`** - checks if a user exists

- **`boolean addUserToGroup(String token, String username, String group)`** - add a user to a particular group

- **`void removeUserFromGroup(String token, String username, String group)`** - remove a user from a group.

- **`void removeUser(String token, String username)`** - delete a user.

- **`boolean removeGroup(String token, String groupname, String defaultGroupName)`** - remove a group. If `defaultGroupName` is specified, users belonging to `groupname` will be added to `defaultGroupName`.

- **`Vector getGroups(String token)`** - gets all groups

- **`boolean hasUser(String token, String username)`** - checks if a user exists

- **`boolean hasGroup(String token, String groupname, String username)`** - checks if a group exists

- **`boolean editUser(String token, String username, RemoteUser remoteUser)`** - edits the details of a user

- **`boolean deactivateUser(String token, String username)`** - deactivates the specified user

- **`boolean reactivateUser(String token, String username)`** - reactivates the specified user

- **`Vector getActiveUsers(String token, boolean viewAll)`** - returns all registered users

- **`boolean setUserInfo(String token, String username, UserInfo user)`** - updates user information

- **`boolean changeUserPassword(String token, String username, String newPass)`** - changes the specified user's password

- **`boolean changeMyPassword(String token, String oldPass, String newPass)`** - changes the current user's password

- **`boolean changeUserPassword(String token, String username, UserInfo user)`** - updates user information

- **`boolean changeMyPassword(String token, String oldPass, String newPass)`** - changes the current user's password

- **`boolean addUserToGroup(String token, String username, String groupname)`** - add a user to a particular group

- **`boolean removeUserFromGroup(String token, String username, String groupname)`** - remove a user from a group.

- **`boolean updateUserInformation(String token, String username, UserInfo userInfo)`** - update user information

- **`boolean removeUser(String token, String username)`** - delete a user.

- **`boolean removeUser(String token, String username)`** - delete a user.

- **`boolean removeGroup(String token, String groupname, String defaultGroupName)`** - remove a group. If `defaultGroupName` is specified, users belonging to `groupname` will be added to `defaultGroupName`.

### Labels

- **`Vector getLabelsByLabel(String token, long labelId)`** - Returns all Labels for the given ContentEntityObject ID

- **`Vector getLabelsByLabel(String token, String labelName)`** - Returns a Vector of Strings representing the labels for the given spaceKey, with a specified maximum number of results.

- **`Vector getMostPopularLabels(String token, int maxCount)`** - Returns the most popular Labels for the Confluence instance, with a specified maximum number.

- **`Vector getMostPopularLabelsInSpace(String token, String spaceKey, int maxCount)`** - Returns the most popular Labels for the given spaceKey, with a specified maximum number of results.

- **`Vector getRecentlyUsedLabels(String token, int maxResults)`** - Returns the recently used Labels for the Confluence instance, with a specified maximum number of results.

- **`Vector getRecentlyUsedLabelsInSpace(String token, String spaceKey, int maxResults)`** - Returns the recently used Labels for the given spaceKey, with a specified maximum number of results.

- **`Vector getSpacesWithLabel(String token, String labelName)`** - Returns an array of Spaces that have been labelled with labelName.

- **`Vector getSpacesByLabel(String token, String labelName)`** - Returns an array of Spaces that have been labelled with labelName.

- **`Vector getRelatedLabels(String token, long labelId)`** - Returns the content for a given label ID

- **`Vector getRelatedLabels(String token, String labelName)`** - Returns the content for a given label name.
- Vector getLabelContentByObject(String token, Label labelObject) - Returns the content for a given Label object.
- Vector getSpacesContainingContentWithLabel(String token, String labelName) - Returns all Spaces that have content labelled with labelName.
- boolean addLabelByName(String token, String labelName, long objectId) - Adds a label to the object with the given ContentEntityObject ID.
- boolean addLabelById(String token, long labelId, long objectId) - Adds a label with the given ID to the object with the given ContentEntityObject ID.
- boolean addLabelByObject(String token, Label labelObject, long objectId) - Adds the given label object to the object with the given ContentEntityObject ID.
- boolean removeLabelByName(String token, String labelName, long objectId) - Removes the given label from the object with the given ContentEntityObject ID.
- boolean removeLabelById(String token, long labelId, long objectId) - Removes the label with the given ID from the object with the given ContentEntityObject ID.
- boolean removeLabelByObject(String token, Label labelObject, long objectId) - Removes the given label object from the object with the given ContentEntityObject ID.
- boolean removeLabelByNameFromSpace(String token, String labelName, String spaceKey) - Removes the given label from the given spaceKey.

Data Objects

Most returned structs have a summary and a detailed form:

- The summary form is a primary key (ie space key, page id) and a representative form (ie space name, page title)
- The detailed form will have all of the entity details as might be needed for the client.

Unless otherwise specified, all returned structs are in detailed form.

ServerInfo

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>majorVersion</td>
<td>int</td>
<td>the major version number of the Confluence instance</td>
</tr>
<tr>
<td>minorVersion</td>
<td>int</td>
<td>the minor version number of the Confluence instance</td>
</tr>
<tr>
<td>patchLevel</td>
<td>int</td>
<td>the patch-level of the Confluence instance</td>
</tr>
<tr>
<td>buildId</td>
<td>String</td>
<td>the build ID of the Confluence instance (usually a number)</td>
</tr>
<tr>
<td>developmentBuild</td>
<td>Boolean</td>
<td>Whether the build is a developer-only release or not</td>
</tr>
<tr>
<td>baseUrl</td>
<td>String</td>
<td>The base URL for the confluence instance</td>
</tr>
</tbody>
</table>

Note: Version 1.0.3 of Confluence would be major-version: 1, minor-version: 0, patch-level: 3. Version 2.0 would have a patch-level of 0, even if it's not visible in the version number.

SpaceSummary

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>key</td>
<td>String</td>
<td>the space key</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>the name of the space</td>
</tr>
<tr>
<td>type</td>
<td>String</td>
<td>type of the space</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this space online</td>
</tr>
</tbody>
</table>

Space

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>key</td>
<td>String</td>
<td>the space key</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>the name of the space</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this space online</td>
</tr>
<tr>
<td>homepage</td>
<td>String</td>
<td>the id of the space homepage</td>
</tr>
<tr>
<td>description</td>
<td>String</td>
<td>the HTML rendered space description</td>
</tr>
</tbody>
</table>

SpaceGroup
<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>key</td>
<td>String</td>
<td>the space-group key</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>the name of the space-group</td>
</tr>
<tr>
<td>licenseKey</td>
<td>String</td>
<td>license stored against the space group</td>
</tr>
</tbody>
</table>

**PageSummary**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>the id of the page</td>
</tr>
<tr>
<td>space</td>
<td>String</td>
<td>the key of the space that this page belongs to</td>
</tr>
<tr>
<td>parentid</td>
<td>String</td>
<td>the id of the parent page</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>the title of the page</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this page online</td>
</tr>
<tr>
<td>locks</td>
<td>int</td>
<td>the number of locks current on this page</td>
</tr>
</tbody>
</table>

**Page**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>the id of the page</td>
</tr>
<tr>
<td>space</td>
<td>String</td>
<td>the key of the space that this page belongs to</td>
</tr>
<tr>
<td>parentid</td>
<td>String</td>
<td>the id of the parent page</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>the title of the page</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this page online</td>
</tr>
<tr>
<td>version</td>
<td>int</td>
<td>the version number of this page</td>
</tr>
<tr>
<td>content</td>
<td>String</td>
<td>the page content</td>
</tr>
<tr>
<td>created</td>
<td>Date</td>
<td>timestamp page was created</td>
</tr>
<tr>
<td>creator</td>
<td>String</td>
<td>username of the creator</td>
</tr>
<tr>
<td>modified</td>
<td>Date</td>
<td>timestamp page was modified</td>
</tr>
<tr>
<td>modifier</td>
<td>String</td>
<td>username of the page’s last modifier</td>
</tr>
<tr>
<td>homePage</td>
<td>Boolean</td>
<td>whether or not this page is the space’s homepage</td>
</tr>
<tr>
<td>locks</td>
<td>int</td>
<td>the number of locks current on this page</td>
</tr>
<tr>
<td>contentStatus</td>
<td>String</td>
<td>status of the page (eg. current or deleted)</td>
</tr>
<tr>
<td>current</td>
<td>Boolean</td>
<td>whether the page is current and not deleted</td>
</tr>
</tbody>
</table>

**PageHistorySummary**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>the id of the historical page</td>
</tr>
<tr>
<td>version</td>
<td>int</td>
<td>the version of this historical page</td>
</tr>
<tr>
<td>modifier</td>
<td>String</td>
<td>the user who made this change</td>
</tr>
<tr>
<td>modified</td>
<td>Date</td>
<td>timestamp change was made</td>
</tr>
</tbody>
</table>

**BlogEntrySummary**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>the id of the blog entry</td>
</tr>
<tr>
<td>Key</td>
<td>Type</td>
<td>Value</td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>space</td>
<td>String</td>
<td>the key of the space that this blog entry belongs to</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>the title of the blog entry</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this blog entry online</td>
</tr>
<tr>
<td>locks</td>
<td>int</td>
<td>the number of locks current on this page</td>
</tr>
<tr>
<td>publishDate</td>
<td>Date</td>
<td>the date the blog post was published</td>
</tr>
</tbody>
</table>

**BlogEntry**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>the id of the blog entry</td>
</tr>
<tr>
<td>space</td>
<td>String</td>
<td>the key of the space that this blog entry belongs to</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>the title of the page</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this blog entry online</td>
</tr>
<tr>
<td>version</td>
<td>int</td>
<td>the version number of this blog entry</td>
</tr>
<tr>
<td>content</td>
<td>String</td>
<td>the blog entry content</td>
</tr>
<tr>
<td>locks</td>
<td>int</td>
<td>the number of locks current on this page</td>
</tr>
</tbody>
</table>

**RSS Feed**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>String</td>
<td>the URL of the RSS feed</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>the feed's title</td>
</tr>
</tbody>
</table>

**Search Result**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>title</td>
<td>String</td>
<td>the feed's title</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the remote URL needed to view this search result online</td>
</tr>
<tr>
<td>excerpt</td>
<td>String</td>
<td>a short excerpt of this result if it makes sense</td>
</tr>
<tr>
<td>type</td>
<td>String</td>
<td>the type of this result - page, comment, spacedesc, attachment, user, blogpost</td>
</tr>
<tr>
<td>id</td>
<td>String</td>
<td>the long ID of this result (if the type has one)</td>
</tr>
</tbody>
</table>

**Attachment**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>String</td>
<td>numeric id of the attachment</td>
</tr>
<tr>
<td>pageld</td>
<td>String</td>
<td>page ID of the attachment</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>title of the attachment</td>
</tr>
<tr>
<td>fileName</td>
<td>String</td>
<td>file name of the attachment (Required)</td>
</tr>
<tr>
<td>fileSize</td>
<td>String</td>
<td>numeric file size of the attachment in bytes</td>
</tr>
<tr>
<td>contentType</td>
<td>String</td>
<td>mime content type of the attachment (Required)</td>
</tr>
<tr>
<td>created</td>
<td>Date</td>
<td>creation date of the attachment</td>
</tr>
<tr>
<td>creator</td>
<td>String</td>
<td>creator of the attachment</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>url to download the attachment online</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>comment for the attachment (Required)</td>
</tr>
<tr>
<td>Key</td>
<td>Type</td>
<td>Value</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>id</td>
<td>String</td>
<td>numeric id of the comment</td>
</tr>
<tr>
<td>pageld</td>
<td>String</td>
<td>page ID of the comment</td>
</tr>
<tr>
<td>title</td>
<td>String</td>
<td>title of the comment</td>
</tr>
<tr>
<td>content</td>
<td>String</td>
<td>notated content of the comment (use renderContent to render)</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>url to view the comment online</td>
</tr>
<tr>
<td>created</td>
<td>Date</td>
<td>creation date of the attachment</td>
</tr>
<tr>
<td>creator</td>
<td>String</td>
<td>creator of the attachment</td>
</tr>
</tbody>
</table>

**User**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>String</td>
<td>the username of this user</td>
</tr>
<tr>
<td>fullname</td>
<td>String</td>
<td>the full name of this user</td>
</tr>
<tr>
<td>email</td>
<td>String</td>
<td>the email address of this user</td>
</tr>
<tr>
<td>url</td>
<td>String</td>
<td>the url to view this user online</td>
</tr>
</tbody>
</table>

**Permission**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>lockType</td>
<td>String</td>
<td>The type of permission. One of 'View' or 'Edit'</td>
</tr>
<tr>
<td>lockedBy</td>
<td>String</td>
<td>The user or group name of the permission's owner</td>
</tr>
</tbody>
</table>

**Label**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>String</td>
<td>the name of the label</td>
</tr>
<tr>
<td>owner</td>
<td>String</td>
<td>the username of the owner</td>
</tr>
<tr>
<td>namespace</td>
<td>String</td>
<td>the namespace of the label</td>
</tr>
<tr>
<td>id</td>
<td>String</td>
<td>the ID of the label</td>
</tr>
</tbody>
</table>

**UserInformation**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>username</td>
<td>String</td>
<td>the username of this user</td>
</tr>
<tr>
<td>content</td>
<td>String</td>
<td>the user description</td>
</tr>
<tr>
<td>creatorName</td>
<td>String</td>
<td>the creator of the user</td>
</tr>
<tr>
<td>lastModifierName</td>
<td>String</td>
<td>the url to view this user online</td>
</tr>
<tr>
<td>version</td>
<td>int</td>
<td>the version</td>
</tr>
<tr>
<td>id</td>
<td>String</td>
<td>the ID of the user</td>
</tr>
<tr>
<td>creationDate</td>
<td>Date</td>
<td>the date the user was created</td>
</tr>
<tr>
<td>lastModificationDate</td>
<td>Date</td>
<td>the date the user was last modified</td>
</tr>
</tbody>
</table>

**ClusterInformation**

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>isRunning</td>
<td>boolean</td>
<td>true if this node is part of a cluster.</td>
</tr>
</tbody>
</table>
### NodeStatus

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>nodeId</td>
<td>int</td>
<td>an integer uniquely identifying the node within the cluster.</td>
</tr>
<tr>
<td>jvmStats</td>
<td>Map</td>
<td>a Map containing attributes about the JVM memory usage of node.</td>
</tr>
<tr>
<td>props</td>
<td>Map</td>
<td>a Map containing attributes of the node.</td>
</tr>
<tr>
<td>buildStats</td>
<td>Map</td>
<td>a Map containing attributes of the build of Confluence running on the node.</td>
</tr>
</tbody>
</table>

### Scripts examples

The [Confluence Extension space](#) contains various examples of scripts.

### Confluence FAQ

**Confluence FAQ**

Solutions to frequently asked questions and queries about Confluence and commonly encountered issues with the product:

**Administration FAQ**
• Capturing HTTP traffic using Wireshark or Fiddler
• Displaying System Properties
• How do I suppress cluster warning message in Confluence?
• How to display a banner like the Confluence Documentation space
• Page Restrictions Performance Considerations
• Using Firebug Lite in Internet Explorer when browsing a Confluence page
• Customising Confluence Icons
• How can I retrieve a recently deleted space or page?
• How do I adjust the session timeout
• How Do I Find My License from the File System?
• How do I Remove a User who has Content Created
• How do I Remove the Last Updated and Created By Text?
• How to Disable Emoticons
• How to Hide the Referrer
• How to Restore Deactivated Users
• How to Search Confluence for Uses of a Macro
• Where are the files that used to be in my Confluence installation directory?
• Where are user macros stored?
• How do I adjust the session timeout
• How Do I Get More Statistics From Confluence?
• How do I know what Confluence version I am running?
• How do I prevent personal spaces from being shown on the dashboard
• Migrate Confluence from one database to another
• How do I change the space key?
• How do I check which spaces have email accounts
• How do I configure the Plugin Repository to update its plugins information offline?
• How do I disable indexing of attachments
• How Do I Get More Statistics From Confluence?
• How do I disable indexing of attachments
• How do I change the default polling time for email in Confluence?
• How do I configure an Automatic Refresh of the Recently Updated List
• How to revert from clustering to single node
• Adding a Site-Wide Banner
• Customise Confluence Page Exports
• Editing the Footer
• How do I completely remove the "Space Details" page from Confluence exports?
• Where does Confluence store all its data?
• Running Confluence Behind a Caching Proxy Server
• I am trying to install Confluence but the demo-site.zip file is missing
• How do I Disable Automatic Mail Polling?
• Disabling Profile Pictures on the Recently Updated Dashboard
• How to Hide the Referrer
• How to Remove Version from Footer
• Configuring a MySQL Datasource in Apache Tomcat

Backup FAQ

• Are there any scripts for backup creation and restore?
• Backup will not import
• Can Confluence be restored from a backup minus attachments?
• Can XML backups be deleted automatically?
• Does running a daily XML backup slow performance?
• How can I reduce the space taken up by automatic backups?
• How to Change the Version of a Space Backup
• How to Find Attachments in Attachments Folder
• How can I reduce the space taken up by automatic backups?
• Can Confluence be restored from a backup minus attachments?
• How to Change the Version of a Space Backup

Configuration FAQ

• Running Tomcat on a Different Port
• Change default font, color, or spacing in Confluence
• How do I Change the Time of Daily Report Updates
• How to audit Confluence - enabling user access logging
• Share users and groups between Confluence and JIRA
• How do I Modify the Frequency of Content Indexing
• How do I change the default polling time for email in Confluence?
• How to I Configure an Automatic Refresh of the Recently Updated List
• How do I remove the "Space Details" page from Confluence exports?
• Where does Confluence store all its data?
Installation FAQ
- The Confluence window closes immediately when started
- How do I re-trigger the setup wizard
- Confluence starts but a problem prevents me from accessing the dashboard
  - I receive a BUILD FAILED message when trying to create an EAR file in Confluence 2.6 or 2.7
- How much disk space does Confluence need?
- How Do I Make Confluence Accessible from the Root Context with a Tomcat EAR WAR configuration
- How To Run Confluence Standalone and Apache on Port 80 (Different IP Addresses)

JIRA Integration FAQ
- The JIRA Issues Macro behaves problematically
- The JIRA Issues Macro generates an error
- When setting up JIRA user management in Confluence, the Confluence login page loads but login fails
- When setting up JIRA user management in Confluence, the Confluence login page loads with an error

LDAP FAQ
- Are all users in LDAP visible in Confluence administration and can they be assigned permissions or to groups?
- Can we use LDAP and Confluence groups simultaneously, as a ‘mixed mode’, where some groups are kept in Confluence and others in LDAP?
- Confluence Domino LDAP FAQs
- Confluence integration with LDAP and Active Directory FAQs
- How are LDAP or Active Directory users counted toward my license limit?
- How can I assign an LDAP user a Confluence account?
- How can I enable LDAP?
- How does Confluence handle user deletions from LDAP? Is the user's assignment to one or more groups still visible?
- I am having a problem with Confluence LDAP integration
- I enabled LDAP and some users are now returned twice under the user browser
- If a Confluence user had a lowercase username, but an LDAP user has the same username in UPPERCASE, does it matter which one I use?
- If a user already exists in Confluence and an LDAP user with the same username is added, which account's password gets used?

Mail Archiving FAQ
- Can Confluence replace my regular mail client?
- How do I get mail into Confluence?
- How do I use the mail archive?
- Okay, I've imported the mail, but where is it?

New User FAQ
- Can I use CamelCaseLinks like they do on WardsWiki?
- Can Users Edit Individual Sections Within a Page?
- How does Confluence differ from a wiki?

RSS Feeds FAQ
- Create an RSS feed for mail from only specified mail accounts
- How do I fix a "Could not download (Feed URL) - Connection timed out (errno238)" error?
- How do I fix a "Could not retrieve (Feed URL) - Not Permitted" error?
- How do I fix an "Error formatting 'macro rss java.lang.NullPointerException" error?
- How do I fix an "Unable to retrieve (Feed URL) - Connection refused - connect" error?
- How do I force authentication for public feeds?
- Is it possible to delete a feed?
- I want to remove RSS Feeds completely

Upgrade FAQ
- I cannot find the "Rich Text" editor. Is the editor part of Confluence 1.4.3?
- Server ID FAQ
- Upgrade My Trial To A Commercial Version

Usage FAQ
Add many files to a page at once
Create a page by passing parameters to a template
How do I obtain content that hasn’t been modified in a certain period of time
How to Add a Quick Search for Firefox
How to Find Pages with no Label
How to Make Confluence Open a New Tab when Clicking on the Attachments Link
How to Reset a Custom Layout
Redirect to a specific page (home page) within the site after logging in
Setup email notifications of page updates

RELATED TOPICS

Plugin Development
Fix ‘Not supported by BasicDataSource’ Setup or Startup Error
Troubleshooting HTTPS or SSL-related problems
What browsers are supported? I cannot see the Rich Text Editor in my browser

Administration FAQ

This section contains solutions for common issues or queries associated with administering Confluence.

This section focuses on providing instructions to either perform administration-level tasks or customise Confluence's functionality via its Administration Console.

View one of the following issues or queries for more information:

- Capturing HTTP traffic using Wireshark or Fiddler
- Displaying System Properties
- How do I supress cluster warning message in confluence?
- How to display a banner like the Confluence Documentation space
- Page Restrictions Performance Considerations
- Using Firebug Lite in Internet Explorer when browsing a Confluence page
- Customising Confluence Icons
- How can I retrieve a recently deleted space or page?
- How do I adjust the session timeout
- How Do I Find My License from the File System?
- How do I Remove a User who has Content Created
- How do I Remove the Last Updated and Created By Text?
- How to Disable Emoticons
- How to Hide the Referrer
- How to Restore Deactivated Users
- How to Search Confluence for Uses of a Macro
- Where are the files that used to be in my Confluence installation directory?
- Where are user macros stored?
- Add Spell Checking To Confluence
- Can I run multiple instances of Confluence & connect them to a central database?
- Configuring Confluence to send email notifications
- Copy Or Rename A Space
- Disable public account signups
- Enable public anonymous access
- Getting a License for a Staging Environment
- How do I change the space key?
- How do I check which spaces have email accounts
- How do I configure the Plugin Repository to update its plugins information offline?
- How do I disable indexing of attachments
- How Do I Get More Statistics From Confluence?
- How do I know what Confluence version I am running?
- How do I prevent personal spaces from being shown on the dashboard
- List page- and space-related details for an attachment using the attachment's name
- Migrate Confluence from one database to another
- Rebuild the Content Indices from scratch
- Redirect users to a site-wide home page after a successful login
- Redirect users to a page on login
- Restrict Attachments Based On File Type
- Search for User Properties in the Database
- Fix Out of Memory errors by Increasing Available Memory
  - Editing the Windows Registry

Capturing HTTP traffic using Wireshark or Fiddler

This is a quick guide to help you start capturing HTTP traffic when requested by support. This can be helpful either for network traffic issues or for understanding issues with page content loading.
**Linux/Unix: Wireshark**

1. Install Wireshark. (Mirror here)
2. Open your Internet browser.
3. Open Wireshark.
4. Click on "Capture > Interfaces". A pop up window will show up.
5. You probably want to capture traffic that goes through your Ethernet Driver. Click on the Start button to start capturing traffic via this interface.
6. Visit the URL that you wanted to capture the traffic from.
7. Go back to your Wireshark screen and click the fourth button or press Ctrl + E.
8. After the traffic capture is stopped, please save the captured traffic into a file (in *.pcap format) and attach it to your support ticket.
9. Don't forget to mention the IP Address of the servers involved so Support can go through the TCP dump.

**Windows: Fiddler**

Wireshark cannot sniff traffic within the same machine (localhost) on Windows. If you would like to sniff local traffic on Windows, try Fiddler.

1. Download Fiddler.
2. Open it.
3. Browse to your site. Visit the pages that are problematic and a contrasting non-problematic page if appropriate, for contrast.

Fiddler can capture local traffic by using the machine's name as the host name rather than 'localhost'.

4. Click File > Save > All Sessions....
5. Attach the resulting file for Support.

**Displaying System Properties**

After adding memory, setting a proxy or changing other java options, it's hard to diagnose whether the system has picked them up.

To find out more about what properties are being picked up, download systemproperties.jsp. Place it in the <confluence-install>/confluence/admin folder. Access the URL: http://<yourbaseurl>/admin/systemproperties.jsp.

No restart of Confluence is required.

**How do I supress cluster warning message in confluence?**

You might find that under Logging and Profiling in Confluence Admin, either (or both)

```
com.atlassian.confluence.cluster.safety
com.atlassian.confluence.cluster
```

are set to DEBUG.

Please change them to INFO and the warning messages in logs should disappear.

**How to display a banner like the Confluence Documentation space**

The documentation for spaces prior to the current documentation contain a banner:

Edit the main layout for the space. After the Content div header:

```jsp
## CONTENT DIV BEGINS
<div id="header">
#quickSearch()
<ul id="header-menu-bar" class="ajs-menu-bar">
#if($sitemeshPage.getProperty("page.browse-menu"))
$sitemeshPage.getProperty("page.browse-menu")
#else
#menuMacros_renderGlobalBrowseMenu()
#end
#menuMacros_renderUserMenu()
$!sitemeshPage.getProperty("page.breadcrumbs")
</ul>
</div>
```

Add the following:
Page Restrictions Performance Considerations

Page Permissions and the Confluence Search Index

Modifying the page permissions requires reindexing all child pages, as well as comments and attachments on all those pages.

The reasons for this:

- Page permissions are stored on every item in the index
- When you search, a filter is applied to all items in the index which prevents you seeing content you don't have permission to see
- If the permission information on attachments wasn't updated when a page permission was changed, users who didn't have permission to view the attachment in Confluence would still see that attachment in the search results as well as some of its content
- To update any record in the index, you need to delete it from the index and re-add it (this is a limitation of Lucene)

Therefore, to update an attachment record in the index, even just to change the permissions, the attachment's content must be reindexed.

Performance Considerations

In the large majority of situations, this design should not be a problem. In large spaces with deep page hierarchies, it might be. Use performance logging for the index flush operation to assess the impact of changing a page restriction - try it on the space's home page, or a page with a lot of children, to see the performance impact of changing a page restriction.

Space Design Considerations

For some space designs, deep page hierarchies may be desirable. If possible, it's recommended to split spaces where it makes sense to do so, according to how your information is organized. One workaround – CONF-7089 – involves opening up access to just a few pages in a mostly-restricted space so as to "open" the space where space permissions close it. This may be a performance concern if the space, and attachments in the space, are large.

Workarounds

There are a few workarounds to consider:

1. Avoid page restrictions on large page hierarchies. If you have a large hierarchy you have to protect differently to other content in the space, consider moving the hierarchy to a new space. (Space permissions are applied in a manner that doesn't have this problem, but having a large number of spaces also causes scaling issues.)
2. Disable page permissions completely. You can do this on a space-by-space basis by not granting the "Restrict" permission in the space permissions screen.
3. Turn off attachment content indexing. See How do I disable indexing of attachments or Configuring Attachment Size for information on how to do attachment types or size limits.

Using Firebug Lite in Internet Explorer when browsing a Confluence page

1. Open a Confluence page in IE.
2. Copy and paste the following into your IE browser URL bar and press enter:

   ```javascript
   javascript:var%20firebug=document.createElement('script');firebug.setAttribute('src','http://getfirebug.com/releases/lite/1.2/firebug-lite-compressed.js');document.body.appendChild(firebug);(function(){if(window.firebug.version){firebug.init();}else{setTimeout(arguments.calleen);}})();void (firebug);
   ```

3. You should see a Firebug console at the bottom of the browser now.

For more information, please refer to Firebug Lite's documentation

Customising Confluence Icons

Icons are intended to be added/customised from time to time by users to adopt a new look. The file locations are hard to locate.

Resolution
These steps are under the presumption that users have access to the source code:

- Search for the atlassian-renderer library.
- Extract the library and search for the file /com/atlassian/renderer/DefaultIconManager.java where the icons are being mapped.
- Check out how the referencing are being done there and add your own icons within

The Confluence 2.10 version of CONFKB:DefaultIconManager is attached to this article.

Additional Information

<table>
<thead>
<tr>
<th>Severity</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Expression</td>
<td>[Cc]ustom.*icon</td>
</tr>
<tr>
<td>Article ID</td>
<td>CONFKB151519281</td>
</tr>
</tbody>
</table>

Searching Confluence Knowledge Base

How can I retrieve a recently deleted space or page?

To restore a page, you may find the wanted information in the Restoring a Deleted Page documentation.

Unfortunately there is no easy way to restore a space - tell your Confluence Administrator to restore the site's daily backup and retrieve the deleted space from there.

To setup Confluence in a staging environment you may need to use a Developer License.

How do I adjust the session timeout

To change the default session timeout (which is 60 minutes) you must edit the file web.xml. This file can be found in <YOUR DEPLOYMENT>/confluence/WEB-INF/web.xml.

The element you want to edit in the web.xml file is:

```xml
<session-config>
    <session-timeout>60</session-timeout>
</session-config>
```

The value within the session-timeout tag defines the amount of time the session will exist, in minutes.

Note that after editing the web.xml file you will need to restart confluence for your change to take effect.

On a related note, to configure Confluence's internal connection pool timeout period, please tweak the c3p0.timeout property in your <Confluence-Home>/confluence.cfg.xml file:

```xml
<property name="hibernate.c3p0.timeout">30</property>
```

This value is an indication of the number of seconds a connection can remain pooled but unused before being discarded. Zero means idle connections never expire.

More details can be found here.

How Do I Find My License from the File System?

If you're not sure where your license is in my.atlassian.com, you can look in <confluence-home>/confluence.cfg.xml.

How do I Remove a User who has Content Created

Confluence doesn't allow the removal of a user who has created any content. The standard method for removal is described in Removing a User. If you want to delete the content as well, the SQL is described below. Locate the content created by the user using the queries:

```sql
SELECT * FROM CONTENT WHERE contenttype = 'COMMENT' and creator = '<Username that you wish to remove>'
```
Run the same DELETE commands after verifying the content is indeed content you wish to delete.

### How do I Remove the Last Updated and Created By Text?

Open the file `<confluence-install>/confluence/decorators/includes/page-metadata.vm` in a text editor and remove the following text:

```text
#if ($page.isLatestVersion() == true)
$action.getText('added.by.user.last.edited.on.date', ["#$usernameLink ($page.creatorName)", "$action.dateFormatter.format($page.lastModificationDate)"])
#set ($previousPage =$action.getPreviousVersion($page.previousVersion))
#if ($previousPage)
   <$span class="noprint">&nbsp;(<a href="$req.contextPath/pages/diffpages.action?pageId=${page.id}&originalId=$previousPage.id">$action.getText('view.change')</a>)</span>
#end
#else
$action.getText('added.by.user.edited.on.date', ["#$usernameLink ($page.creatorName)", "$usernameLink ($page.lastModifierName)", "$action.dateFormatter.format($page.lastModificationDate)"])
#end
```

### How to Disable Emoticons

The text markup `i` is rendered as ![ ], a principle which applies to many more Confluence Emoticons. There is a feature request at CONF-4884 for enabling or disabling emoticon rendering in this manner via Confluence’s Administrative features. However, to disable emoticon rendering in Confluence:

#### For Confluence 2.8.x and earlier:

1. Open up the `wikiFiltersSubsystemContext.xml`:
   - For Confluence 2.5.x and earlier, this file is located in `WEB-INF/classes` directory.
   - For Confluence 2.6.x to 2.8.x, this file is located in `WEB-INF/lib/confluence-2.x.y.jar/plugins`. Please follow the steps as suggested here to edit files in a jar file.
2. Determine the following line and remove/comment out the content:

   ```xml
   <ref local="emoticonRendererComponent"/>
   ```

#### For Confluence 2.9.x and later:

1. Open up the `wiki-renderer-components.xml`, located in `WEB-INF/lib/confluence-2.x.y.jar/plugins`. Please follow the steps as suggested here to edit files in a jar file.
2. Determine the following line and remove/comment out the content:

   ```xml
   <renderer-component key="emoticon" name="Emoticon Renderer"
   class="com.atlassian.confluence.renderer.plugin.SpringRendererComponentFactory" weight="10000">
   <param name="componentName">emoticonRendererComponent</param>
   </renderer-component>
   ```

Alternatively, manually escape the character with a “slash”, “\”. For example:

```
\(i)
```

**Code Macro** and **Noformat Macro** is also an option as any emoticons wrapped within the macro will be disabled automatically.

### How to Hide the Referrer

Run Confluence over SSL. Major browsers do not send the HTTP_REFERER when you are linking from an https:// site to an http:// site. To run confluence on SSL please refer to Adding SSL for Secure Logins and Page Security.

### Additional Information
How to Restore Deactivated Users

**Symptoms**

A user that has been deactivated in the past cannot be brought back to life. Even if assigned to the right groups with confluence access.

![Note that this applies only to the older mechanism for user deactivation. In newer versions of Confluence, users are removed by removing them from groups with can-use permission, as described in Removing a User.]

**Cause**

In older versions of Confluence users have been deactivated by inserting a row into table os_propertyentry with entity_id = theUserId AND entity_key=confluence.user.deactivated

This entry is still evaluated but there is no mechanism in newer version to remove this from the DB.

**Resolution**

1. Backup Confluence
2. Stop Confluence
3. Find the user id (=theUserId) of the particular user in table users
4. Run the following SQL query to identify the row that contains the 'deactivated' information. The entity_name column should have an entry like 'LOC_username':

   ```sql
   select * from OS_PROPERTYENTRY WHERE entity_id = theUserId AND entity_key="confluence.user.deactivated";
   ```

5. Delete this row from the table

**Additional Information**

![Searching Confluence Knowledge Base]

How to Search Confluence for Uses of a Macro

**Illegal Search Terms**

Several terms are illegal to use when searching Confluence, like : or {. If you search for just the macro term, you're likely not to get the right search results. For example, searching for 'usage', which is the name of a macro but also a common English word, will not yield an accurate count.

**Query the Database**

If, for example you want to search for the uses of the usage macro, you can search the database:
For large instances of Confluence, searches across the entire bodycontent table of the database might be expensive. You can try this on a test server.

You might want to use the SQL Plugin to automate this, or better yet the Macro usage stats plugin. Note that these are third party (unsupported) plugins.

```
SELECT * FROM BODYCONTENT WHERE BODY LIKE '%{usage}%' 
```

If you want to get the last users or the creators of the pages where the `noformat` macro is used, you might run:

```
SELECT CREATOR FROM CONTENT WHERE CONTENTID IN (SELECT CONTENTID FROM BODYCONTENT WHERE BODY LIKE '%{noformat}%' ) GROUP BY CREATOR 
SELECT LASTMODIFIER FROM CONTENT WHERE CONTENTID IN (SELECT CONTENTID FROM BODYCONTENT WHERE BODY LIKE '%{noformat}%' ) GROUP BY LASTMODIFIER 
```

**Logging Uses of a Macro**

This information won’t tell you how often a macro is invoked - rather how often it appears on pages. For counting how often it’s invoked (and measuring the time it takes to invoke it), check Identifying Slow Performing Macros.

**Counting the Incidents of Invoked Logs**

You can then grep the logs like:

```
grep -c "{usage}" atlassian-confluence.log
```

**Where are the files that used to be in my Confluence installation directory?**

With the release of Confluence 2.6.0, many files have been moved inside `WEB-INF/lib/confluence-x.x.x.jar` file, which means they can no longer be edited by simply opening and saving a file.

For example, you may find that some files previously were in `<confluence install directory>/confluence/WEB-INF/classes` are no longer there.

If you want to edit them for customisation, you will need to extract the relevant files from the `confluence-x.x.x.jar`, and place them in the directory where they are used to reside.

You can either use a zip application or use the `jar` tool from your JDK installation to extract the file.

**Example**

You want to modify `xwork.xml` in Confluence 2.10.2. The steps to follow are:

1. Shutdown Confluence
2. Locate `WEB-INF/lib/confluence-2.10.2.jar`.
3. Open the jar file using your favourite zip application and search for `WEB-INF/lib/confluence-2.10.2.jar/xwork.xml`. You can also use JAVA’s `jar` tool if you like.
4. Extract `xwork.xml` and place it in `WEB-INF/classes/`, and modify as necessary. Any files placed in this folder will take precedence over their jarred version and you do not need to re-jar them in `confluence-21.0.2.jar`.
5. Restart Confluence

The problem with customization is that they might break in the new version of Confluence. Some codes in your customized file might have changed in the new version. Hence, it is best that you do not copy your customized file directly to the new installation directory. Instead, you need to apply the same customization in the new version of the file.

**RELEVANT TOPICS**

- Editing Files within JAR Archives
- Installing Patched Class Files
Where are user macros stored?

User macros are stored in the bandana table:

```
select * from bandana as b where b.bandanakey = 'atlassian.confluence.user.macros';
```

Add Spell Checking To Confluence

Confluence has no inbuilt support for spell checking. You may wish to vote for Confluence to add its own spell checking or add spell checking to your browser instead:

- Add spell checking to Internet Explorer
- Install the Firefox browser with inbuilt spell checking

Can I run multiple instances of Confluence & connect them to a central database?

Confluence can be **clustered**.

If running as a single node, you may only have one instance of Confluence connecting to a single database.

There are a couple of reasons for this, but it all comes down to the fact that the Confluence application maintains a lot of state (caches, search indexes) separate to the database, and multiple front-ends will quickly see that state get out of sync, with disastrous effect.

Because of this, Confluence periodically checks to make sure it’s the only application accessing the database, and if it finds a conflict it will shut down rather than risk corrupting your data.

Configuring Confluence to send email notifications

Configuring Confluence to send email notifications requires a Confluence Administrator to set this up through the Administration Console.

To configure Confluence to send notifications and test that it is working, follow these instructions:

1. Set up a mail server at Administration -> Mail servers. See Configuring a Server for Outgoing Mail.
   - Make sure you use "Send Test Email" to check that the server is working. Check that you get the test email in your inbox.
2. Go to your profile (using the Preferences link) and click Edit Profile -> Email Preferences, then enable Notify On My Action. (Otherwise you’ll have to use multiple users. By default confluence does not send you notifications for your own changes.) See Managing Watches
3. While editing your profile, make sure you have an email address configured. See Configuring a Server for Outgoing Mail
4. Go to a page you wish to get notifications about.
5. Click the Envelope icon in the top right corner to "watch" that page. See Watching a Page.
7. Either wait a while or: Go to Administration -> Mail Queue. Click "Flush Mail Queue". See The Mail Queue.
8. Check your email.

For instructions on configuring user-level email notifications, see Setup email notifications of page updates.

**RELATED TOPICS**

Setup email notifications of page updates

Copy Or Rename A Space

Currently Confluence does not support renaming or copying spaces through the user interface. You may wish to vote towards these feature requests:

- Feature request to clone an entire space - this will enable duplication of every page, news item and comment plus space themes and colour schemes.
- Feature request to copy a page hierarchy between existing spaces.

**Use The Copy Space Plugin**

The best option is to install the Copy Space Plugin.

⚠️ Note that this plugin is still in beta release, and is not officially supported by Atlassian.

⚠️ Note that copying a space can take a long time and may appear to time out when using this plugin (even when the copied space is created correctly). If this occurs, please ensure that your space has not been created before attempting to copy the space again.

Read the developer’s notes in the Atlassian blogs.

**Manually Clone Or Rename A Space**
Alternatively, it is possible to manually clone or rename a space by modifying an XML backup of the target space.

Notes

- May require manually updating external links to that space.
- The instructions have been confirmed for Confluence 2.2 onwards. Users running older versions are recommended to upgrade Confluence before continuing.
- Where examples are given, they involve changing oldkey:Old Space Name into newkey:New Space Name. You need to substitute your own keys for oldkey and newkey, and your own space names for Old Space Name and New Space Name.
- When importing a space export for a space that already exists, the previous space content will be overwritten.
- Read the process in full before beginning.

Stage 1: Rename Space

1. Select a new, unique space key and name for the second space. Space keys may only consist of ASCII letters or numbers (A-Z, a-z, 0-9) and no empty spaces are allowed in the key.

2. Clone your production Confluence instance to a test server on another computer now. (For instructions, see Migrating Confluence Between Servers.) You should now have a production server and test server both containing the same data and can avoid the risk of corrupting your production Confluence instance.

3. On the test server, login as an administrator.

4. Go to Browse Space -> Advanced -> Export Space and export the target space as XML including attachments.

5. Save the space backup.

6. Open the space backup file with a zip file editor and find the file entities.xml.

7. Edit entities.xml in a text editor.

8. Do a 'Search & Replace' on the old space name as shown below. Swap out Old Space Name and New Space Name for the actual names.

<table>
<thead>
<tr>
<th>Search For</th>
<th>Replace With</th>
</tr>
</thead>
<tbody>
<tr>
<td>[CDATA[Old Space Name]]</td>
<td>[CDATA[New Space Name]]</td>
</tr>
</tbody>
</table>

9. Do a 'Search' for any occurrences of the old space name that occur in user content. You may wish to replace some or all of these references with the new space name. Replace Old Space Name and New Space Name with the actual names.

<table>
<thead>
<tr>
<th>Search For</th>
<th>Replace With</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Space Name</td>
<td></td>
</tr>
</tbody>
</table>

10. Do four 'Search & Replaces' on each of the references to the old space key as shown below. Swap out oldkey and newkey for your actual keys.
### Search For vs Replace With

<table>
<thead>
<tr>
<th>Old Key</th>
<th>New Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>[oldkey]</td>
<td>[newkey]</td>
</tr>
<tr>
<td>spaceKey=oldkey</td>
<td>spaceKey=newkey</td>
</tr>
<tr>
<td>[oldkey::]</td>
<td>[newkey::]</td>
</tr>
<tr>
<td>key=oldkey</td>
<td>key=newkey</td>
</tr>
</tbody>
</table>

**For example:**

Space name: Test Space  
Space key: test  
New space name: Test Space 2  
New space key: test2

```xml
<property name="name"><![CDATA[Test Space]]></property>
<property name="key"><![CDATA[test]]></property>
```

The above search and replace ensures that you will change the test oldkey to test2, and change the "Test Space" Old Space Name to Test Space 2.

11. Save the modified `entities.xml`.

12. Overwrite the original `entities.xml` in the space backup with the modified version.

13. Login to the test instance as a Confluence administrator.

14. Go to Administration -> Backup & Restore. Under 'Upload a zipped backup to Confluence', browse to select to the modified space backup. Check the 'Build index' option and select 'Upload & Restore'.

15. Once the restore process has completed, access the new space and test that you can access pages, embedded links and attachments. Any error in this step indicates that your search and replace was performed incorrectly and you should retry from step 2.

### Stage 2: Restore On Production

1. Backup your production instance now.

2. Login to the production instance as a Confluence administrator.

3. Go to Administration -> Backup & Restore. Under 'Upload a zipped backup to Confluence', browse to select to the modified space backup. Check the 'Build index' option and select 'Upload & Restore'. If any data loss occurs as a result of using this workaround, immediately revert to the backup.

4. Once the restore process has completed, access the new space and test that you can access pages, embedded links and attachments. If any error occurs during this step, revert to the site backup.

5. If renaming a space, you can delete the old space by going to Browse Space -> Space Admin -> Remove Space. Click OK to remove the old space.

### Stage 3: Rename Space References

Links in other spaces to the old space will remain unchanged. If you are renaming a space, you will need to change these links to point to the new space. Users who are copying a space can leave the links pointing to the original space by skipping this stage.

Changing these links depends on if you want to change every link, or only some. If not all links must be changed or you are unwilling to stop your production instance, this must be done by editing each page individually. If all links must be changed, follow the instructions below.

1. Create a site XML backup including attachments from Administration -> Backup & Restore.

2. Save the site XML backup file.

3. Stop the production instance.

4. Create two copies of the site backup. Keep one copy as the original, unmodified backup, the other will be modified. Rename the backups so that it is clear which is being modified.

5. Open the copy for modification and edit `entities.xml`.

6. Do four `Search & Replaces` on each of the references to the old space key as shown below. Swap out oldkey and newkey for the actual keys.
Confluence 3.0 Documentation

<table>
<thead>
<tr>
<th>Search For</th>
<th>Replace With</th>
</tr>
</thead>
<tbody>
<tr>
<td>[oldkey]</td>
<td>[newkey]</td>
</tr>
<tr>
<td>spaceKey=oldkey</td>
<td>spaceKey=newkey</td>
</tr>
<tr>
<td>[oldkey:]</td>
<td>[newkey:]</td>
</tr>
<tr>
<td>key=oldkey</td>
<td>key=newkey</td>
</tr>
</tbody>
</table>

7. Save the updated `entities.xml` back into the modified site XML backup file
8. Start the production instance
9. Import the modified site XML backup from Administration -> Backup & Restore. If you have any problems, revert to the original unmodified backup and redo the links manually instead

Done.

**Related**

Copy Space Template: There is a feature request being tracked at CONF-4538.

**Disable public account signups**

**How do I prevent just anyone from being able to sign up for new accounts?**

Confluence gives you the option to enable or disable "public signup". If you want to restrict your site to a particular set of users, you can easily disable public signup from the 'General Configuration' section of the Administration Console.

See Enabling or Disabling Public Signup.

**RELATED TOPICS**

- Confluence Permissions Architecture
- How do I tell if a user has permission to...?
- Confluence Security Advisory 2006-01-23
- Revoking Space Permissions
- Assigning Space Permissions
- Hiding the People Directory
- Anti-XSS documentation
- How to Hide the Referrer
- Confluence Cookies
- Space Permissions Overview
- Edit in Word Link Macro
- HTML Macro
- Security Overview
- Confluence Security
- View File Macro

**Enable public anonymous access**

**How do I configure Confluence for public-anonymous access?**

There are two different permissions that need to be set to allow anonymous access to a Confluence site. First, the 'Anonymous' user needs
the global "Use Confluence" permission, secondly you need to give 'Anonymous' permissions in each space you want to make public. Full instructions can be found [here](#).

**RELATED TOPICS**

- Security Overview
- Users and Groups
- Confluence FAQ

## Getting a License for a Staging Environment

If you already have a developer license, you can [add it under the Administration > License Details page](#). You can also create a new key as detailed below:

> Only a technical contact for your commercial/academic license is able to create a Developer license

Atlassian supplies 'developer' licenses which can be used by existing commercial license holders who wish to deploy non-production installations of our software to use in QA/staging environments. Developer licenses are free of charge to commercial license holders and, like our commercial offerings, they include 12 months of updates starting from the date of purchase of the commercial license.

If you hold a commercial license, you can obtain a free developer license by performing the following:

1. Log in to your Atlassian account.
2. Under the "Licenses" heading, all of your licenses will be displayed. Click the plus sign next to a license to view its details.
3. Click the "View Developer License" link in the bottom right corner of the license detail panel, below your commercial license key.

Your new developer license will be generated and displayed in a pop up window. Repeat this process as many times as necessary for multiple developer licenses. If you're unable to create the license, [contact our sales department for help](#).

### Developer licenses are not compatible with all versions of our products. The table below indicates which versions of each product support developer licenses.

<table>
<thead>
<tr>
<th>JIRA</th>
<th>Confluence</th>
<th>Bamboo</th>
<th>Clover for Ant</th>
<th>Clover for Eclipse 3</th>
<th>Clover for IDEA 6</th>
<th>Crowd</th>
<th>Crucible</th>
<th>FishEye</th>
<th>JIRA Perforce Plugin</th>
<th>JIRA VSS Plugin</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.7+</td>
<td>2.3+</td>
<td>All</td>
<td>1.3.14+</td>
<td>1.2.12+</td>
<td>1.0.2+</td>
<td>All</td>
<td>1.0.3+</td>
<td>1.3.3+</td>
<td>JIRA 3.11+ (Disabled)</td>
<td>JIRA 3.11+</td>
</tr>
</tbody>
</table>

If you are working with an older version that doesn't recognize developer licenses, you can use your existing commercial license in your test environment.

## How do I change the space key?

See [Copy Or Rename A Space](#).

## How do I check which spaces have email accounts

If you have numerous spaces in Confluence and would like to check for spaces which have a mail setting, you can run a database query like the one below:

```sql
SELECT spaces.spacename, spaces.spacekey, bandana.bandanakey
FROM spaces, bandana
WHERE spaces.spacekey = bandana.bandanacontext AND bandana.bandanakey = "atlassian.confluence.space.mailaccounts";
```

## How do I Disable Automatic Mail Polling?

**RELATED TOPICS**

- How do I configure the Plugin Repository to update its plugins information offline?

With the launch of [plugins.atlassian.com](http://plugins.atlassian.com), the Confluence Plugin Repository SVN metadata has been deactivated. For existing clients,
requests to confluence.atlassian.com for repository metadata are now transparently redirected to plugins.atlassian.com, which provides up-to-date plugin information in the same XML format as that served from the old repository proxy.

While Confluence installations with access to confluence.atlassian.com see no impact from this change, those installations which cannot access confluence.atlassian.com need special instructions.

**Download the latest plugins.atlassian.com XML for your version of Confluence**

PAC makes the plugin repository client data available at the URL

https://plugins.atlassian.com/server/legacy/confluence/xml

where `<bn>` is the build number of the Confluence installation. The build number is visible at Admin -> System Information (near the bottom of the page). Build numbers for all released Confluence builds are also available here.

Save the resulting file and place it on a Web server accessible from Confluence. This can be the same server as Confluence itself; for example, if you’re running the standalone version of Confluence at http://localhost:8090, place the saved XML in the confluence directory inside your standalone installation.

**Keeping the XML up to date**

When a change is made on plugins.atlassian.com to a plugin’s data, the generated XML will update at most one day after the change is made. Consider writing a cron job or similar to fetch the XML on a weekly basis and store it in your chosen location to ensure you are always up to date on plugin information.

**Configure the Plugin Repository Client**

Now go to Admin -> Plugins -> Confluence Atlassian Plugin Repository and click on the Configure link.

There are four plugin repository data source options:

1. **HTTP Data Source Generator** - Plain text XML file served over HTTP. Never used, except for debugging.
2. **Subversion Generator (Deprecated)** - Check out the metadata from SVN and generate the XML internally. As this uses the deprecated SVN metadata, it can be ignored.
3. **Local Generator (Deprecated)** - Read the metadata off your local filesystem and generate the XML internally. As this uses the deprecated SVN metadata, it can be ignored.
4. **Proxy Client** - pull XML data from another Confluence Plugin Repository Client that has been configured to act as a server.

In this case you would need to choose the **Proxy Client** option, as it is able to fetch XML from any server, not just plugins.atlassian.com.

Paste the URL to the XML data in the **Data Source** field and uncheck the **Data Source Proxying** option if it is checked. Then click **Save** and select **Admin -> Plugin Repository**, and the client should load the repository info as before.

**RELATED TOPICS**

Confluence Repository Client

**How do I disable indexing of attachments**

Sometimes a user can experience problems indexing large MSExcel or MSPowerPoint documents and the reindexing may cause potential Unknown Ptg warning messages that are harmless. There is already a request to Suppress these warnings from the re-indexing of unreadable documents by the POI library.

The error is usually not serious yet can sometimes cause problems when large attachments are used. So you may like to disable indexing of a particular type of document.

To do this, you can use one of the methods described below.

**Method 1: Via the Administration Console**

You can disable the relevant modules from the Attachment Extractors plugin, by going to Administration -> Configuration -> Plugins -> Attachment Extractors and disabling the relevant modules listed there:

- PDF Content Extractor — For PDF attachments
- MS Word Content Extractor — For DOC attachments
- MS Excel Content Extractor — For XLS attachments
- MS PowerPoint Content Extractor — For PPT attachments

The search query will ignore all attachments of the type corresponding to the disabled module.
Method 2: Via editing the attachment-extractors.xml file

You need to modify the confluence/WEB-INF/classes/plugins/attachment-extractors.xml and comment out the relevant file type extractor. From Confluence 2.6, attachment-extractors.xml is packaged inside confluence-2.6.0.jar, we have instructions for Editing Files within JAR Archives if you're unfamiliar with the process.

The example below shows a pdfContentExtractor disabled which would cause PDF attachments not to be indexed.

Once the ContentExtractor for a file type is disabled, all files of that type become unsearchable.

How Do I Get More Statistics From Confluence?

Confluence has several plugins that you can use for generating statistics, such as:

- Use the SQL and Chart plugins together.
  - Our user community have contributed some great SQL queries.
- The Reporting Plugin contains macros which allow powerful and flexible reporting on Confluence content and content from other locations.
- Customware's Tracking Plugin contains macros for anonymously tracking content access. Otherwise known as hit counting, this macro provides the ability to count the number of times a given piece of content has been viewed. It does not count views by the most recent editor of the page.
- Try using the tracking-info macro to track the number of times an attachment is downloaded
- Make user macros like countpages, which counts the number of pages in a space.
- Use the Contributors and Contributors Summary macros to get more details regarding the contributors for required pages.
- Statistical Analysis Plugin from Adaptavist, is another cluster-ready, enterprise scalable third-party plugin.

In addition, Confluence has a built-in access logging mechanism, which shows who has logged in and the URL invoked. To enable it, you need to modify a couple of configuration files and restart Confluence. The traditionally generated access log can then be analysed by one of the available access log analyser tools such as Webalizer, Google Analytics or AwStats which can generate useful statistics.

For more information on using Google Analytics and Confluence you may wish to refer to this blog post by David Simpson.

See our documentation on Obtaining Confluence Instance Metrics

If none of the above tools satisfy your requirements, you can create a feature request in jira. Please note that there are already several feature requests and improvements created by our customers all being collated under one umbrella issue

Please cast your vote, add your comments to the discussion and don't forget to add yourself as a watcher to be notified on progress. All our improvements and new features are implemented according to this guide.

RELATED TOPICS

Live Monitoring Using the JMX Interface
Live log viewer plugin.
Tomcat's access logs.

**How do I know what Confluence version I am running?**

At the bottom of a Confluence page you will see a line like this:

```
Powered by Atlassian Confluence 2.10.1, the Enterprise Wiki. Bug/feature request - Atlassian news
- Contact administrators
```

In the above it means that you are running Confluence version 2.10.1.

If you do not see that line, you can visit [http://<Your Confluence URL>/admin/systeminfo.action](http://<Your Confluence URL>/admin/systeminfo.action) and find out the version from there.

**How do I prevent personal spaces from being shown on the dashboard**

To disable personal pages from being shown in the dashboard one will need to customise the recently updated content macro by giving it a different parameter.

Here's how:

1. Login as an admin and go to your Confluence administration console
2. Under the "Look and Feel" menu, click on "Layouts" (or type this in your browser: [http://yourConfluenceURL.com/admin/listdecorators.action](http://yourConfluenceURL.com/admin/listdecorators.action))
3. Under "Site Layouts" look for "Global Layouts" and choose "Create Custom"
4. In the layout editor, look for this line:

   ```
   $helper.renderConfluenceMacro("{recently-updated:dashboard|showProfilePic=true}")
   ```

5. Change to this:

   ```
   $helper.renderConfluenceMacro(
       "{recently-updated:spaces=SpaceKey1,SpaceKey2|showProfilePic=true}"
   )
   ```

6. Save

   ![Warning] Personal spaces will still show up in daily email update. If you don't want this to show in the email update, you need to make the space accessible only to selected groups or people.

**List page- and space-related details for an attachment using the attachment's name**

Occasionally, the indexing task will report some attachments that failed to be indexed correctly. If you wish to list the page- and space-related information for these problematic attachments (of which you only know their title from the logs) please query your database with the following SQL statement:

```sql
select s.spacekey, s.spacename, a.title, a.pageid, a.attachmentid, 
    '(confluence-home)/attachments/' + a.pageid + '/' + a.attachmentid + '/' + a.attversion as filepath
from attachments a
join content c on a.pageid = c.contentid
join spaces s on c.spaceid = s.spaceid
where a.title like '<Name of Attachment>'
```

Please substitute the attachment name in the above query depending upon your requirement.

The `filepath` column will list all attachments in the directory structure format similar to the way that they are stored in Confluence, such as `<Confluence-Home>/attachments/pageid/attachmentid/attachmentversion`

**Related Unix Commands**

```
file <Filename>
```

If you wish to check the filetype for attachments in your `<Confluence-Home>/attachments/` folder, run the above Unix command.

Eg:
Migrate Confluence from one database to another

How do I migrate Confluence from one database to another?

First perform an XML backup of your Confluence site. You can do this from the Administration > Backup and Restore page.

Once you've made the backup file, you can set up a new Confluence instance from scratch against your new database and restore the backup that you just created. Detailed instructions can be found here.

RELATED TOPICS

- Migrate to Another Database (Confluence Docs 3.0)
- Configuration Guide (Confluence Docs 3.0)

FAQ Home

Rebuild the Content Indices from scratch

Why are the Content Indices failing?

The Content Indices (consisting of either the Search Index or the Did You Mean Index) may become corrupt and fail due to the following causes:

- Confluence runs out of memory.
- Confluence runs out of disk space.
- Permissions are incorrect in the <confluence-home>/index directory.
- The index flush trigger is not synchronized, and an environmental issue like system time is reading the flag incorrectly (bug is reported at CONF-9575, fixed in Confluence 3.0.2).

For an analysis of why your index might have failed, please create a Support ticket. Make sure to attach your atlassian-confluence.log.

Flushing the Index Queue

You may be able to address the issue without a complete rebuild of the index. When you experience search problems within your Confluence instance, or cannot find things after performing an upgrade, one simple solution that can help you locate your content is to manually rebuild the index, as described in Content Index Administration. You can try either a complete rebuild, or flush the queue contents.

Rebuilding the Failed Content Indices

If you are still experiencing problems after performing the above rebuild, the next step may be to remove the index and rebuild it from scratch, as described below. For example, the rebuild procedure described above may not restore a corrupted index file. You may want to ensure that all index files are re-created.

The Space Activity feature uses the index to store data. To preserve the activity data, keep the Plugins directory and delete the rest of the index.

To remove the index and rebuild it from scratch:
1. Shut down your Confluence server.
2. Remove the `<confluence-home>/index` directory.
3. Restart server.

   A new index directory will be created upon restart of your application.
4. Now perform the manual re-indexing of your site to build a brand new index from scratch.

If you still cannot find your content, please contact Confluence support.

**Redirect users to a site-wide home page after a successful login**

As an administrator, you can set a site-wide home page within any space, to which users are sent after logging in.

To set the site-wide home page as an administrator:

1. Go to Administration > General Configuration
2. Click Edit
3. Set Site Homepage to your desired home page

Setting home pages within spaces depends on the access permissions to both the space and your site.

- If your site allows anonymous access, the site homepage must also be accessible anonymously.
- If your site does not allow anonymous access, the site homepage must be accessible to the "confluence-users" group.

In Confluence 1.2 and earlier, the site homepage must be accessible anonymously, regardless of site permissions.

**Note:** please ensure that the View Space Goes to Space Summary setting is set to OFF if you want users to be sent to space homepage instead of the summary page.

For instructions on configuring this feature at the user level, see Redirect to a specific page (home page) within the site after logging in.

**RELATED TOPICS**

Redirect to a specific page (home page) within the site after logging in

**Redirect users to a page on login**

*Can I set Confluence to redirect users to a space homepage immediately after login?*

Yes. You can direct users to any of the space homepages when they login to the site. This is configured by a site administrator from the Administration Console. Instructions on how to do this can be found here.

You can also modify the login page's content or establish single sign-on integration.

**RELATED TOPICS**

Administration Guide
Customising Space Homepage

**Restrict Attachments Based On File Type**

If a user has permission to upload attachments, you can restrict them to certain filetypes only by installing the Attachment Filter. Note that this is an unsupported plugin and has only been tested to work on Confluence 2.2 - 2.3.x. There is an open new feature request to have this updated and supported here.

You can also restrict the maximum size of any one attachment that a user can upload, or disable the indexing of attachments, which may help performance.

**Search for User Properties in the Database**

So long as you have not changed the user authentication from the default (i.e. you are NOT using external user management such as LDAP or JIRA) the users of Confluence are stored in `OS_USER` table.

The user's properties such as fullname, email and when they previously logged in, are stored in the `OS_PROPERTYENTRY` table.

If you know the user's username (which can be found in `OS_USER` table), you can find their details using the following query:

```
select * from os_propertyentry p, os_user u where p.entity_id = u.id and u.username='user_name_goes_here';
```
Fix Out of Memory errors by Increasing Available Memory

Since the default memory setting usually is around 64 or 128MB (256MB in Confluence 2.2 and later), you might have to adjust the settings to run a bigger Confluence instance with sufficient memory.

On this page:

- Diagnosis and Common Causes
- Determining the various causes of memory errors
  - java.lang.OutOfMemoryError: PermGen space
  - java.lang.OutOfMemoryError
  - OutOfMemoryError: unable to create new native thread
  - OutOfMemoryError: GC overhead limit exceeded
  - OutOfMemoryError: Requested array size exceeds VM limit
- Setting the Memory Settings

Diagnosis and Common Causes

There are several reasons that out of memory exceptions can be thrown. Either the virtual machine Confluence is using has hit its allocated memory limit, the system on which Confluence is running has run out of physical and virtual memory, or Confluence is consuming too much memory. In the first case, you should modify the maximum heap size of the virtual machine, per the instructions in this document; in the second or third cases, the solution is to identify the culprit of the memory leak.

For help determining which memory settings to choose, consult Managing Application Server Memory Settings.

If you have not yet set your memory settings and your usage has increased, it's likely that you must set your memory, described below. If your usage patterns have not changed but you've added a plugin or done an upgrade, it's likely that there is a memory leak in a plugin.

1. If you're using the in-memory database (HSQLDB), migrate to an external database. The in-memory database can use a lot of memory.
2. If you are using XML backups, disable them and move to the Alternative Backup Strategy. The XML backup process can be a memory hog.

To troubleshoot potential memory leaks, enter Plugin Support Mode. Take thread dumps during normal operations and during an outage, and submit this information in a support ticket.

Determining the various causes of memory errors

There are different kinds of memory limits inside the Java Virtual Machine. Each limit can be configured independently. But you must first find out which limit you have reached.

java.lang.OutOfMemoryError: PermGen space

If you get the error message: java.lang.OutOfMemoryError: PermGen space this means that you have exceeded Java's default 64Mb block for loading class files. This can happen if many plugins are installed. You may want to increase the PermGen memory size to suit your needs.

In the following sample, the blue parameter shows how the PermGen Memory has been set to 192 megabytes. This value should be set depending on your memory requirements. 192m should be sufficient for Confluence even when many plugins are installed.

JAVA_OPTS="-Xms128m -Xmx1024m $JAVA_OPTS -Djava.awt.headless=true" -XX:MaxPermSize=192m

Note: The other parameters in this sample are just shown to give you some context, and are not part of this example.

java.lang.OutOfMemoryError

Heap space memory errors occur when the application has to deal with large amounts of data or users. These errors will contain only a java.lang.OutOfMemoryError, e.g. without the reference to PermGen space as above. You should try to increase the heap size to solve this problem. This requires configuring the Xmx and Xms parameters. In the following example, the maximum heap size is set to 1024 megabytes. This should be enough for small to medium deployments.

JAVA_OPTS="-Xms128m -Xmx1024m -XX:MaxPermSize=256m $JAVA_OPTS -Djava.awt.headless=true"

Note: The other parameters are only shown to give you context and are not part of this example.
Deployments with high usage patterns may require additional memory. For high-usage deployments, it is recommended to set both Xms and Xmx as the same value (e.g. -Xms1024m -Xmx1024m), provided the memory is available. On the other hand, adding too much memory can also cause problems (see below), so you should increment memory carefully, for example in increments of 128 megabytes.

**OutOfMemoryError: unable to create new native thread**

This error occurs when the operating system is unable to create new threads. This is due to the JVM Heap taking up the available RAM.

Big heaps take away from the space that can be allocated for the stack of a new thread

For 32bit Linux generally the maximum heap size of the JVM cannot be greater than 2GB. Windows systems will typically split the available physical memory 50:50 as Application and Kernel/System space, so please do not allocate an amount exceeding or approaching that split.

The size of the stack per thread can also contribute to this problem. The stack size can reduce the number of threads that can be created.

To fix this problem, you should reduce the size of your JVM Heap and also the size of the stack per thread.

The stack size can be changed with the following (example) parameter:

```
-Xss512k
```

Please refer to this guide as a reference for JVM tuning.

**OutOfMemoryError: GC overhead limit exceeded**

This error indicates that the JVM took too long to free up memory during its GC process. This error can be thrown from the Serial, Parallel or Concurrent collectors. It often means that the Xmx value is too high - you might consider lowering it. See Garbage Collector Performance Issues for more details. For more severe and persistent performance issues relating to GC, it is recommended to change to a parallel collector, and to ensure that Confluence has access to the memory demanded by its users.

The parallel collector will throw an OutOfMemoryError if too much time is being spent in garbage collection: if more than 98% of the total time is spent in garbage collection and less than 2% of the heap is recovered, an OutOfMemoryError will be thrown. This feature is designed to prevent applications from running for an extended period of time while making little or no progress because the heap is too small. If necessary, this feature can be disabled by adding the option `-XX:-UseGCOverheadLimit` to the command line.

This kind of OutOfMemoryError can be caused if user requests drown the available resources in the JVM. When this occurs, performance will degrade aggressively. This will eventually require a restart or the application may recover.

**OutOfMemoryError: Requested array size exceeds VM limit**

This is a rare error and indicates that Confluence attempted to allocate an array that is larger than the Java heap size. More details regarding this error can be found here.

This is due to a known limitation of the JVM as documented here. We have a bug lodged against this, to better handle this exception in Confluence.

### Setting the Memory Settings

How to set the heap or permanent generation memory depends on your distribution, platform, and how you start Confluence. Refer to Configuring System Properties.

- If you're starting Confluence from a Windows Service, make sure you add the properties through the registry settings.
- To verify if your settings have been picked up, check Displaying System Properties.
- Other factors such as system load and allocating too much memory to your JVM Heap can also cause OutOfMemory Errors. For more information, you can refer to the JIRA documentation on Causes of OutOfMemoryErrors.

#### RELATED TOPICS

- Managing Application Server Memory Settings
- Installing the Confluence EAR-WAR Edition
- FAQ Home
- Tomcat JVM options and Modify the Default JVM Settings
- Websphere Tuning JVM
- Logging A Thread Dump

**Editing the Windows Registry**

If you need to adjust memory settings and are using a Windows Service, you can adjust your memory settings using the instructions in this
You have two choices on how to set the memory settings.

**From the Command Line**

Run this command from the command line:

```
tomcat6 //US//Confluence --JvmMs 1024 --JvmMx 1024 ++JvmOptions=-"XX:MaxPermSize=256m"
```

**Edit the Registry**

1. Shut Confluence Service.
2. Go to Start >> Run >> Type in regedit. (On versions of Windows prior to Windows XP, please type regedit32 instead of regedit.)
3. In the registry editor, click to HKEY_LOCAL_MACHINE -> SOFTWARE -> Apache Software Foundation -> Procrun 2.0 -> Confluence -> Parameters -> Java. Here you will see an entry for JvmMx, which is the "maximum memory" setting. Choose an appropriate value based on Managing Application Server Memory Settings.

![Registry Editor](image1)

4. Double-click JvmMx to edit, change the Base to "Decimal" and adjust the value as necessary:

![Registry Editor](image2)

5. If setting the Perm Gen size, click Options and add -XX:MaxPermSize=256m:
If you want to add other JVM parameters, you can use the same method as when adding the permgen setting.

6. Restart Confluence Service.

Backup FAQ

This section contains solutions for common issues or queries associated with backing up the content within your Confluence site or installation.

The XML backup is known to be inefficient and prone to errors with larger instances. You can switch to an external backup process for a reliable and efficient solution.

View one of the following issues or queries for more information:

- Are there any scripts for backup creation and restore?
- Backup will not import
- Can Confluence be restored from a backup minus attachments?
- Can XML backups be deleted automatically?
- Does running a daily XML backup slow performance?
- How can I reduce the space taken up by automatic backups?
- How to Change the Version of a Space Backup
- How to Find Attachments in Attachments Folder
- Is it Possible to Store the Confluence Home Directory on a Network Share?

RELATED TOPICS

Site Backup and Restore

Are there any scripts for backup creation and restore?

Check out User Submitted Backup & Restore Scripts.

Backup will not import

See Troubleshooting failed XML site backups.

Can Confluence be restored from a backup minus attachments?

Yes, as long as the attachments have been backed up are the same time. Refer to Site Backup and Restore.

Can XML backups be deleted automatically?

Windows users must manually delete any backup files. Linux users can insert a nightly or weekly automation script or cron similar to the following:

```bash
ls -t <path to your backup dir>/* | tail +6 | xargs -i rm {}
```
Does running a daily XML backup slow performance?

The XML backup is known to be inefficient and prone to errors with larger instances. You can switch to an external backup process for large instances.

How can I reduce the space taken up by automatic backups?

Switch to a manual backup process according to the 'Backups For Large Instances' section of Site Backup and Restore, which will give you more control over disk usage.

How to Change the Version of a Space Backup

Confluence prevents the import of space backups which aren't from the same major version. The reason for this is that any schema change between the export and imported version of Confluence will cause the import to fail, leaving you with an incomplete import. Even worse, the failure can be database-dependent, so it may work fine on one particular database but your backup will fail to import later.

Do not import a modified space backup on a production server. Import the modified space backup on a test server, then export from the test server to create a pristine space backup for the new version.

To change the version of a space backup, do the following:

- extract the space backup ZIP file
- edit exportDescriptor.properties in a text editor
- change the buildNumber to the buildNumber of the Confluence version you wish to import into
- zip up the modified contents of the backup into a ZIP file again.

This will allow you to import a backup into a test instance of Confluence. After checking the imported space for errors, export it cleanly from the test server and import the fresh backup into your production server.

If your import fails on the test server due to Hibernate errors, this indicates a schema incompatibility and cannot be worked around. You will need to restore your entire site on an old version of Confluence, and export the space from there. See the last section of Restoring a space for details.

How to Find Attachments in Attachments Folder

Symptoms

Attachments are stored on filesystem but there isn't any attachment in the attachments folder.

Cause

The attachment naming scheme is numerical so as to avoid encoding problems with operating systems.

Resolution

You can look for the attachment detail (e.g file type, attachment name) from ATTACHMENTS table. As attachment is stored as this structure: <attachments>/pageID/attachment/attachmentVersion, you may want to run the following query to retrieve attachments of a page:

```
Select * from ATTACHMENTS where pageID='<PageID>'
```

You can determine the missing attachments by using the Missing Attachments Report.

Additional Information

<table>
<thead>
<tr>
<th>Severity</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Expression</td>
<td>attachment directory.* file system</td>
</tr>
<tr>
<td>Article ID</td>
<td>CONFKB151519277</td>
</tr>
</tbody>
</table>

Searching Confluence Knowledge Base

Is it Possible to Store the Confluence Home Directory on a Network Share?
Is it possible to house Confluence Home/Confluence on a NAS device instead of local drives?

It is possible to set up this configuration. To do so, specify the network location from 
<confluence-install>/confluence/WEB-INF/classes/confluence-init.properties. Atlassian does not suggest installing Confluence or hosting Confluence Home directory on NAS device because when a NAS or connection to NAS is down, Confluence cannot function correctly and you risk potential data corruption.

Configuration FAQ

This section contains solutions for common issues or queries associated with configuring Confluence.

This section focuses on providing instructions to customise Confluence's functionality and appearance by modifying its installation.

View one of the following issues or queries for more information:

- Running Tomcat on a Different Port
- Change default font, color, or spacing in Confluence
- How do I Change the Time of Daily Report Updates
- How to audit Confluence - enabling user access logging
- Share users and groups between Confluence and JIRA
- How do I Modify the Frequency of Content Indexing
- How do I Configure an Automatic Refresh of the Recently Updated List
- How to revert from clustering to single node
- Adding a Site-Wide Banner
- Customise Confluence Page Exports
  - Available Velocity Context Objects in Exporters
  - Customise Adobe PDF Exports
  - Customise MS Word Exports
- Editing the Footer
- How do I completely remove the "Space Details" page from Confluence exports?
- Where does Confluence store all its data?
- Running Confluence Behind a Caching Proxy Server
- I am trying to install Confluence but the demo-site.zip file is missing
- How do I Disable Automatic Mail Polling?
- Disabling Profile Pictures on the Recently Updated Dashboard
- How to Disable Profile Pictures from the Recently Updated Section of the Dashboard
- Remove Version from Footer
- Configuring a MySQL Datasource in Apache Tomcat

Running Tomcat on a Different Port

By default Confluence's Tomcat instance listens on port 8080 for connections, and port 8005 for the command to shut down.

If you see errors like:

```java
java.net.BindException: Address already in use:8080
```

in your logs, then you need to change the port number Confluence listens on (or you may be trying to start Confluence twice).

Confluence WAR/EAR distribution

Modify Tomcat conf/server.xml, change the ports used on the Server tag and HTTP Connector tag. If you don't know what this means, see the example in the Standalone configuration below.

Confluence Standalone 2.2 and newer

Edit conf/server.xml in your Confluence application directory, and change the ports on the Server tag and the Connector tag to unused ports on your system. The following example shows the relevant section of server.xml where they are changed to 8100 (Server) and 8180 (HTTP Connector). In this configuration you would access Confluence on the URL: http://localhost:8180/confluence.

```xml
<Server port="8100" shutdown="SHUTDOWN" debug="0">
  <Service name="Tomcat-Standalone">
    <Connector className="org.apache.coyote.tomcat4.CoyoteConnector" port="8180" minProcessors="5"
      maxProcessors="75" enableLookups="true" redirectPort="8444" acceptCount="10" debug="0"
      connectionTimeout="20000" useURIValidationHack="false" URIEncoding="UTF-8"/>
  </Service>
</Server>
```

Confluence prior to 2.2
You can change the port number by editing the file `<confluence install directory>/conf/server.xml.

Find the line:

```
<Connector className="org.apache.coyote.tomcat4.CoyoteConnector" port="8080" minProcessors="5" maxProcessors="75"
```

and change `8080` to the port you want to use.

If you are running two Tomcat instances, you'll also need to change the shutdown port in the line:

```
<Server port="8005" shutdown="SHUTDOWN" debug="0">
```

### Specifying the IP address to listen on

For versions 2.2 and later, edit `conf/server.xml` as described above, but add an `address` parameter. The [tomcat documentation](https://tomcat.apache.org/) is a useful reference here. To extend the example above, you can configure tomcat to listen only on the localhost interface with this configuration:

```
<Server port="8100" shutdown="SHUTDOWN" debug="0">
  <Service name="Tomcat-Standalone">
    <Connector className="org.apache.coyote.tomcat4.CoyoteConnector" port="8180" minProcessors="5" maxProcessors="75" address="127.0.0.1" enableLookups="true" redirectPort="8444" acceptCount="10" debug="0" connectionTimeout="20000" useURIVerification="false" URIEncoding="UTF-8"/>
  </Service>
</Server>
```

Why would you want to restrict it to access via localhost? If you're running Confluence behind a proxy server on the same host, this will make sure that users can't bypass the proxy and hit the application server directly.

If your machine also runs IIS, you might encounter a problem where IIS binds to the same port (for example, port 80) for all IP addresses on the machine. This means that you will not be able to run Confluence on another web or application server through that port until you address this IIS issue first. For more information, refer to this [Microsoft Knowledge Base article](https://support.microsoft.com/).

### Change default font, color, or spacing in Confluence

Beginning in Confluence 2.10, you can customise your space or instance using CSS from the User Interface. See [Styling Confluence with CSS](https://confluence.xxxx) here. For earlier versions, check the instructions here.

### How do I Change the Time of Daily Report Updates

You can configure Confluence to perform the daily updates at a time that is best suited to you or your organisational needs.

- **Time is derived from the Confluence server**
  - The time zone is taken from the server on which Confluence is running. To check the time according to the server, do the following:
    1. Go to the Confluence 'Administration Console'. To do this:
      * Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
    2. Click 'System Information' in the left-hand panel and look at the 'System Time'.

Confluence uses [Quartz](https://quartz-scheduler.org/) for scheduling periodic jobs. To change the time of your daily report, you will need to edit the Quartz configuration.

- **To change the time of your daily reports**
1. Open the Quartz configuration file `schedulingSubsystemContext.xml` located under `confluence/WEB-INF/lib/confluence-x.x.x.jar`. Where x.x.x is your Confluence version number.

2. Find the following section of the file:

   ```xml
   <bean id="dailyReportTrigger" class="org.springframework.scheduling.quartz.CronTriggerBean">
     <property name="jobDetail">
       <ref bean="dailyReportJob"/>
     </property>
     <property name="cronExpression">
       <value>0 0 0 * * ?</value>
     </property>
   </bean>
   ``

3. The string `0 0 0 * * ?` sets up a Cron Trigger for the job to run at the zeroth second of the zeroth minute of the 0th hour (midnight), every day of every month, every day of the week.

4. Re-jar the file, either with a zip utility (change the title of .zip back to .jar) or a java command.

5. You can set a new time by editing this string. Note that the date and time format in this configuration file is in this order: Second minute hour day


   For example, to set the new time to twenty past ten PM, change the string to `0 20 22 * * ?`.
   For complete details on the formatting of the cron string, please see [http://www.opensymphony.com/quartz/api/org/quartz/CronTrigger.html](http://www.opensymphony.com/quartz/api/org/quartz/CronTrigger.html).

### RELATED TOPICS

- Changing time of Daily Backup
- How do I Modify the Frequency of Content Indexing

### How to audit Confluence - enabling user access logging

Often, for auditing purposes, administrators need to know who did what. Notifications are not ideally suited for this purpose. Instead, you can generate a basic log indicating which users are accessing which pages in Confluence. Application servers are able to log the requested URL, but they cannot determine the currently logged in user. This log is not currently formatted to be accessible to web log analysis tools such as AwStats as it lacks a host and get method, so must be viewed manually.

Similar to JIRA, Confluence has a built-in access logging mechanism, which shows the user and URL invoked. To enable it, you need to modify a couple of configuration files and restart Confluence.

#### Configuring the AccessLogFilter

There is a simple AccessLogFilter in Confluence than can be enabled via `confluence/WEB-INF/classes/log4j.properties` and `confluence/WEB-INF/web.xml`.

1. Uncomment these line in `log4j.properties`:

   ```
   log4j.category.com.atlassian.confluence.util.AccessLogFilter=INFO
   ```

2. Enable the filter in `web.xml` by removing the comments around these lines:

   ```xml
   <filter-mapping>
     <filter-name>AccessLogFilter</filter-name>
     <url-pattern>/display/*</url-pattern>
     <url-pattern>*.action</url-pattern>
   </filter-mapping>
   ``

   Notice that the *.action pattern is added optionally to log the actions of Confluence in addition to the page views. This combination of URL patterns will work for all URLs. You can further modify the pattern by adjusting the url-pattern field.
3. Restart Confluence

This will result in logging information being stored in the atlassian-confluence.log file in the confluence-home directory.

**Advanced configuration**

After this is working, you could redirect the access log to a different file by adding a new RollingFileAppender at the top of log4j.properties:

```java
log4j.appender.accesslog=org.apache.log4j.RollingFileAppender
log4j.appender.accesslog.Threshold=DEBUG
log4j.appender.accesslog.File=${catalina.home}/logs/atlassian-confluence-access.log
log4j.appender.accesslog.MaxFileSize=20480KB
log4j.appender.accesslog.MaxBackupIndex=5
log4j.appender.accesslog.layout=com.atlassian.confluence.util.PatternLayoutWithStackTrace
log4j.appender.accesslog.layout.ConversionPattern=%d %p [%c{4}] %M %m%n
```

Find this line:

```
#log4j.category.com.atlassian.confluence.util.AccessLogFilter=INFO
```

Change it to this:

```
log4j.category.com.atlassian.confluence.util.AccessLogFilter=INFO, accesslog
log4j.additivity.com.atlassian.confluence.util.AccessLogFilter=false
```

The web.xml url-pattern given above only matches page views (/display/*). You could change the url-pattern, or duplicate the entire filter-mapping to log access for different kinds of access (/admin/* for admin functions, /pages/* for edits and creates, etc. Note that /pages/editpage.action* doesn't work).

**What is logged**

The format produced is the following values separated by spaces:

1. Username or '-' if no user
2. URL
3. VM free memory at start of request (in KB)
4. Change in free memory after request is finished (in KB)
5. Time taken for request (in ms).
6. Remote address

Example:

```
2008-08-08 10:33:05,359 INFO [atlassian.confluence.util.AccessLogFilter] init AccessLogFilter initialized. Format is: <user> <url> <starting memory free (kb)> +- <difference in free mem (kb)> <query time (ms)> <remote address>
```

The above may be preceded by additional log4j-generated text, depending on the log4j pattern which is configured.

**Another option: Google Analytics**

Google Analytics can be easily integrated with Confluence for access tracking.

After signing up, copy the Javascript and paste it into the 'Before end of <body>' section of Administration, Custom HTML. This will put the Javascript on every page generated by Confluence.
This might not work correctly if your users are behind a firewall or authenticated proxy.

For more information on using Google Analytics with Confluence you may wish to refer to this blog post by David Simpson.

**RELATED TOPICS**

Working with Confluence Logs

**Share users and groups between Confluence and JIRA**

**How do I share users and groups between Confluence and JIRA?**

To save your having to enter users into both JIRA and Confluence, you can configure Confluence to use JIRA's user database.

Instructions on how to do this can be found [here](#).

**RELATED TOPICS**

- Revert from JIRA to internal user management (Confluence Docs 3.0)
- Delegate user management to use JIRA logins (Confluence Docs 3.0)

**How do I Modify the Frequency of Content Indexing**

Confluence Content Indexing frequency is handled using a cron job set in `schedulingSubsystemContext.xml`.

**Time is derived from the Confluence server**

The time zone is taken from the server on which Confluence is running. To check the time according to the server, do the following:

1. Go to the Confluence 'Administration Console'. To do this:
   - Open the 'Browse' menu and select 'Confluence Admin'. The 'Administration Console' view will open.
   - Click 'System Information' in the left-hand panel and look at the 'System Time'.

Confluence uses Quartz for scheduling periodic jobs. To change the time of your content indexing, you will need to edit the Quartz configuration.

To change the time of your content indexing
1. Open the Quartz configuration file schedulingSubsystemContext.xml located under confluence/WEB-INF/lib/confluence-x.x.x.jar. Where x.x.x is your Confluence version number.

   For Confluence earlier than 2.6, the index cron job is located in <install dir>/confluence/WEB-INF/classes/schedulingSubsystemContext.xml.

2. Find the following section of the file:

   ```xml
   <bean id="indexQueueFlushTrigger" class="org.springframework.scheduling.quartz.CronTriggerBean">
     <property name="jobDetail">
       <ref bean="indexQueueFlushJob"/>
     </property>
     <property name="cronExpression">
       <value>0 0/5 * * * ?</value>
     </property>
   </bean>
   ```

3. The string '0 0/5 * * ?' sets up a Cron Trigger for the job to run every 5 minutes.

4. Re-jar the file, either with a zip utility (change the title of .zip back to .jar) or a java command.

5. You can set a new time by editing this string. Note that the date and time format in this configuration file is in this order:
   - Second minute hour day


   For example, to set the new time to twenty past ten PM, change the string to '0 20 22 * * ?'.

For complete details on the formatting of the cron string, please see http://www.opensymphony.com/quartz/api/org/quartz/CronTrigger.html.

How do I change the default polling time for email in Confluence?

Modify the cronExpression property of the mailPollTrigger bean in schedulingSubsystemContext.xml file.

```xml
<property name="cronExpression">
  <value>0 0 12 * * ?</value>
</property>
```

In Confluence installation directory, this file is jarred in <confluence installation directory>/confluence/WEB-INF/lib/confluence-x.x.jar. Unzipping the file and placing it WEB-INF/classes folder will over ride the configuration from the jarred version.

For example, the expression below will fire at 12pm (noon) every day:

```xml
<property name="cronExpression">
  <value>0 0 12 * * ?</value>
</property>
```

You may also like to view an information on how to create Cron expressions to provide the ability to specify complex time combination.

http://quartz.sourceforge.net/javadoc/org/quartz/CronTrigger.html

How do I Configure an Automatic Refresh of the Recently Updated List

To have the dashboard refresh automatically:

1. Modify the Main Layout at Administration->Layouts->Main Layout.
2. Add in the `<META HTTP-EQUIV="REFRESH" CONTENT="5"> tag in the html header tag
3. This example will refresh the browser in every 5 seconds
How to revert from clustering to single node

If reverting from a Clustered configuration, one solution is to back up the data, install a new stand-alone, and restore the data. This is the recommended approach. An alternative is to set in confluence.cfg.xml:

```
<property name="confluence.cluster">false</property>
```

To check to see if clustering has been disabled, look in the logs after the xml during startup. In your catalina.out, you have:

```
INFO [KB:main] [KB:confluence.cluster.tangosol.TangosolClusterManager] startCluster Bringing up cluster service
```

This line won’t exist if you start it up with the config we gave above. That’s how to test it.

Adding a Site-Wide Banner

Confluence administrators can add a site-wide banner, i.e. a message or alert that will appear at the top of every page on your Confluence site.

![Screenshot: Example of a Site-Wide Banner](image)

To add a site-wide banner,

1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
2. Click ‘Custom HTML’ in the ‘Look and Feel’ section of the left-hand panel.
3. Click ‘Edit’.
4. Add the following code to the ‘At end of the HEAD’ textbox.
   ```html
   <div style="background-color: yellow; border: 2px solid red; margin: 4px; padding: 2px; font-weight: bold; text-align: center;">
   Your important message...
   </div>
   ```
5. Click ‘Save’.

If you want the banner across the bottom of the page, you should add the code to the ‘At end of the BODY’ textbox instead.

**RELATED TOPICS**

Customising Look and Feel Overview

**Customise Confluence Page Exports**

Modify the style or content of the following page exports:

- Available Velocity Context Objects in Exporters
Available Velocity Context Objects in Exporters

Since the export functionality is not implemented as a WebWork action, it does not inherit the Velocity context of an action. It creates its own context and populates it with a separate list of components. All exporters will inherit this context.

<table>
<thead>
<tr>
<th>Velocity Reference</th>
<th>Description</th>
<th>Javadoc Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>$generalUtil</td>
<td>A GeneralUtil object with several useful methods, including URL encoding.</td>
<td>GeneralUtil</td>
</tr>
<tr>
<td>$textUtil</td>
<td>Common utilities for string manipulation.</td>
<td>TextUtil</td>
</tr>
<tr>
<td>$rendererBean</td>
<td>Mostly for internal use, but can also be used for manipulating page or space exports.</td>
<td>WikiExporter</td>
</tr>
<tr>
<td>$exportDate</td>
<td>A java.util.Date created when the export is actually performed.</td>
<td>Date</td>
</tr>
<tr>
<td>$exportContent</td>
<td>An ExportContext object which holds the context in which the export is performed, such as the user performing the export.</td>
<td>ExportContext</td>
</tr>
<tr>
<td>$dateFormat</td>
<td>Provides a date and time formatter suitable for the exporting user's locale and environment.</td>
<td>DateFormatter</td>
</tr>
<tr>
<td>$baseUrl</td>
<td>The base URL of the Confluence installation (http://&lt;server&gt;:&lt;port&gt;/contextPath).</td>
<td>String</td>
</tr>
</tbody>
</table>

Specific exporters may have additional context members. See their pages for details.

Customise Adobe PDF Exports

The PDF customisation procedures described on this page are only applicable to Confluence 2.10.4 and earlier versions. To customise PDF exports in Confluence 3.0, please use the procedure described in Editing the PDF Stylesheet.

Confluence pages can be output to PDF and some resulting PDF content can be modified. While page content itself is not open to customisation without major source-code modifications, this guide covers the easier task of modifying the plain text contained in page titles, headers and footers and page size.

Change in Confluence 2.6.0

The Velocity template files (files whose names end in .vm) were moved inside the main confluence-<version>.jar file with the release of Confluence 2.6.0 (i.e. $CONFLUENCE_INSTALL/confluence/WEB-INF/lib/confluence-2.6.jar in version 2.6). If you are unfamiliar with editing the contents of a jar file, you may find these instructions useful. Alternatively Java Servlet Technology allows you to use an unpacked version of the desired file in the WEB-INF/classes directory. Make sure you reproduce the exact directory (package) structure.

Change PDF page size

How to Change the page size
The default PDF page size is A4 (210mm x 297mm or 8.27in x 11.7in). Modify the file under your Confluence install directory:

```java
.../confluence/WEB-INF/classes/com/atlassian/confluence/importexport/common_fop.vm
```

To change the page size for PDF export, `page-width` and `page-height` parameters have to be edited in the above mentioned file. Locate the line

```xml
<fo:simple-page-master margin-right="2cm" margin-left="2cm" margin-bottom="1cm" margin-top="1cm"
page-width="21cm" page-height="29.7cm" master-name="all-pages">
```

and change the values for `page-width` and `page-height` as required.

This file is pretty self-explanatory. Change to the following values:

- `page-width="21.59cm"`
- `page-height="27.94cm"`

Optionally you can modify the margins. To give the page a half-inch margin all around:

- `margin-right="1.27cm"`
Landscape orientation

To change the default A4 +Portrait+ size to +Landscape+ follow the instructions below:

By default the page orientation for PDF export is set to "Portrait" with page-width="21cm" and page-height="29.7cm". To change the orientation to Landscape, swap the page-width and page-height measurement values as shown below:

```xml
<fo:simple-page-master margin-right="2cm" margin-left="2cm" margin-bottom="1cm" margin-top="1cm"
page-width="29.7cm" page-height="21cm" master-name="all-pages">
</fo:simple-page-master>
```

This will generate a PDF export with a Landscape orientation.

Editing PDF content

How to edit PDF content:

Confluence uses Apache FOP to write Confluence content to XSL-FO format, and uses Velocity macro files to render PDF headers, footers and page titles. For information on more content editing, study the XSL-FO examples.

Always stop Confluence before editing a Velocity macro file. Users who are stuck can obtain technical assistance by posting the modified Velocity file to the Confluence Developer Forum.

List Of PDF-Related Files

```plaintext
.../confluence/WEB-INF/classes/com/atlassian/confluence/importexport/common_header_fop.vm
.../confluence/WEB-INF/classes/com/atlassian/confluence/importexport/common_footer_fop.vm
.../confluence/WEB-INF/classes/com/atlassian/confluence/importexport/common_fop.vm
.../confluence/WEB-INF/classes/com/atlassian/confluence/pages/Page.pdfexport.vm
```

* The above example is for Unix-based systems, so Windows users should use back-slashes instead forward-slashes

  * An example Windows install directory is C:\confluence-2.2.9-std
  * An example Linux install directory is /opt/confluence-2.2.9/

Text

Inserting the example XSL-FO tag below into the relevant Velocity macro file will output a new line with This text is printed in plain text.

```xml
<fo:block text-align="left" font-family="$generalUtil.getDefaultFontFamily()" color="#0050B2">
  This text is printed
</fo:block>
```

Images

There are two steps involved in adding images to the header and the footer:

1. You need to modify common_fop.vm and adjust the margins, and sizes of the two regions (region-before and region-after) to fit in the image.

   ```xml
   <fo:region-before extent="1cm"/>
   <fo:region-after extent="1cm"/>
   ```

   In the example above, change the "1cm" value to allow yourself as much space as you need for your customization.

2. Insert the example XSL-FO tag below into the relevant Velocity macro file to embed the local image c:\images\operahouse.png into the PDF.

   You will need to convert the file location into a "file URI" before adding it the macro file. For Windows systems, the method is to replace all back-slashes in the local path with forward-slashes and prefix the result with file:// For UNIX-based systems prefix the path with file:// eg /tmp/image.png becomes file:///tmp/image.png

   There is a good explanation for this format in Windows here and if you're really keen (or having problems) a fuller description is here.
Modify Page Title

Modify page title for single page export
This title appears once on the first page of the PDF. An example title is

Demonstration Space : Timesheets
This page last changed on Nov 02, 2006 by Administrator

To modify the page title, go to your Confluence install directory and modify the Velocity macro file

...\confluence\WEB-INF\classes\com\atlassian\confluence\pages\Page.pdfexport.vm

If you want the modification of the page title to take into effect for space export, go to your Confluence install directory and modify the Velocity macro file

...\confluence\WEB-INF\classes\com\atlassian\confluence\spaces\Space.pdfexport.vm

The file contents are shown below

```
<fo:block text-align="left" font-family="$generalUtil.getDefaultFontFamily()" font-weight="bold" color="#0050B2">
$generalUtil.escapeXml($page.space.name) :
$rendererBean.nativeToAscii($generalUtil.escapeXml($page.title))
</fo:block>
<fo:leader leader-pattern="rule" leader-length="100%"/>
<fo:block color="grey" font-size="8pt" space-after.optimum="12pt">
This page last changed on $generalUtil.format($page.lastModificationDate) by
<fo:inline color="#0050B2">$!page.lastModifierName</fo:inline>.
</fo:block>
```

Explanation of the Velocity code from the above example

<table>
<thead>
<tr>
<th>Velocity Code</th>
<th>Prints</th>
</tr>
</thead>
<tbody>
<tr>
<td>$generalUtil.escapeXml($page.space.name)</td>
<td>Space Name</td>
</tr>
<tr>
<td>$rendererBean.nativeToAscii($generalUtil.escapeXml($page.title))</td>
<td>Page Name</td>
</tr>
</tbody>
</table>

Modify Page Headers for Space Export

How to modify page headers
By default, no page header is printed with PDF exports. To add one, go to your Confluence install directory and modify the Velocity macro file

...\confluence\WEB-INF\classes\com\atlassian\confluence\importexport\common_header_fop.vm

Example Header Modification

In between the two FO lines, add

```
<fo:block text-align="left" font-family="$generalUtil.getDefaultFontFamily()" color="#0050B2">
Custom Header
</fo:block>
```

Example Header Modification with Banner
Below is a sample common_header_fop.vm velocity template for header with Banner.

```xml
<fo:static-content flow-name="xsl-region-before">
  <fo:table width="100%" table-layout="fixed" font-family="serif" font-size="10pt">
    <fo:table-column column-width="14cm"/>
    <fo:table-column column-width="3cm"/>
    <fo:table-body>
      <fo:table-row>
        <fo:table-cell color="grey">
          <fo:block text-align="left" font-family="$generalUtil.getDefaultFontFamily()"
            color="#0050B2">
            <fo:external-graphic width="auto" height="auto" src="file:///c:/images/Top_Banner.jpg"/>
          </fo:block>
        </fo:table-cell>
        <fo:table-cell color="grey">
          This is your Customer Header
          <fo:block>
            This is your Customer Header
          </fo:block>
        </fo:table-cell>
      </fo:table-row>
    </fo:table-body>
  </fo:table>
</fo:static-content>
```

If you can't see your banner or image, update the value of `<fo:region-before extent="1cm"/>` in the common_fop.vm template to 4 or 5 cm according to the size of your banner or image. Please see CONF-9082 for a feature request on increasing the default value.

```xml
<fo:layout-master-set>
  <fo:simple-page-master margin-right="2cm" margin-left="2cm" margin-bottom="1cm" margin-top="1cm" page-width="21cm" page-height="29.7cm" master-name="all-pages">
    <fo:region-body margin-bottom="1.5cm" margin-top="1.5cm"/>
    <fo:region-before extent="4cm"/>
    <fo:region-after extent="1cm"/>
  </fo:simple-page-master>
</fo:layout-master-set>
```

A Sample of Custom PDF Header with A Banner on the top

![Banner Example](file:///c:/images/Top_Banner.jpg)

This is your Customer Header

**Test Space : Home**

This page last changed on May 01, 2007 by admin.

Java.sun.com
The Source for Java Developers

A Sample of Custom PDF Header with A Logo on the Right Top

![Logo Example](file:///c:/images/Logo.jpg)

**Development Space : Test Page**

This page last changed on Apr 13, 2007 by admin.

This is test page 1.
**Modify Page Footers for Space Export**

How to modify page footer

Page footers appear on the bottom of every page. An example footer is:

```
Document generated by Confluence on Dec 11, 2006 09:35 Page 1
```

To modify the footer, go to your Confluence install directory and modify the Velocity macro file

```
...\confluence\WEB-INF\classes\com\atlassian\confluence\importexport\common_footer_fop.vm
```

**Example Footer Modification**

To produce this footer

```
Created on Dec 11, 2006 11:43
Copyright Altassian Software
```

Locate this line in `common_footer_fop.vm`

```
<fo:block>Document generated by Confluence on $generalUtil.formatDateTime($exportDate)</fo:block>
```

Replace it with the following Velocity code

```
<fo:block>Created on $generalUtil.formatDateTime($exportDate)</fo:block>
<fo:block>Copyright Altassian Software</fo:block>
```

To produce a footer with a ruler on top and page number on right and some copyright content on bottom then you can use the sample `common_footer_fop.vm` template below

```
<fo:static-content flow-name="xsl-region-after">
  <fo:block>
    <fo:leader leader-pattern="rule" leader-length="100%"/>
  </fo:block>
  <fo:table width="100%" table-layout="fixed" font-family="serif" font-size="10pt">
    <fo:table-column column-width="14cm"/>
    <fo:table-column column-width="3cm"/>
    <fo:table-body>
      <fo:table-row>
        <fo:table-cell color="grey">
          <fo:block>Document generated by Confluence on $dateFormatter.formatDateTime($exportDate)</fo:block>
          <fo:block>Created on $generalUtil.formatDateTime($exportDate)</fo:block>
          <fo:block>Copyright Altassian Software</fo:block>
        </fo:table-cell>
        <fo:table-cell color="grey">
          <fo:block text-align="end">Page <fo:page-number/></fo:block>
        </fo:table-cell>
      </fo:table-row>
    </fo:table-body>
  </fo:table>
</fo:static-content>
```

Sample PDF Footer Image:

```
Document generated by Confluence on Apr 24, 2007 14:00
Created on Apr 24, 2007 14:00
Copyright Altassian Software
```

**Exporter Velocity Context Additions**
**Velocity context objects specific to PDF exporting**

In addition to the objects available to all exporters, the PDF exporter has access to the following additional objects:

(When exporting entire spaces)

<table>
<thead>
<tr>
<th>Velocity Reference</th>
<th>Description</th>
<th>Javadoc Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>$space</td>
<td>The <code>Space</code> object for the space being exported.</td>
<td>Space</td>
</tr>
<tr>
<td>$contentTree</td>
<td>A <code>ContentTree</code> object representing the hierarchy of pages in the space to be exported.</td>
<td>ContentTree</td>
</tr>
</tbody>
</table>

(When exporting single pages)

<table>
<thead>
<tr>
<th>Velocity Reference</th>
<th>Description</th>
<th>Javadoc Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>$page</td>
<td>The <code>Page</code> object for the page being exported.</td>
<td>Page</td>
</tr>
</tbody>
</table>

**Export PDF in another Language**

**How to export in a different language**

Create PDF in another language

**Customise MS Word Exports**

**Overview**

Confluence exports a Confluence page as a Microsoft Word document by:

1. Generating the HTML rendering of a page from Confluence wiki markup
2. Overriding some Confluence page styles with MS Word styles using a CSS wrapper

The wrapper is generated using a Velocity macro to provide CSS style information specific to MS Word exports.

**Modifying Content**

Please do not attempt to modify the output without some experience in CSS and HTML markup. You may also need to review Velocity template language.

- W3Schools CSS Tutorial
- W3Schools HTML Tutorial
- Velocity Template Overview

Before modifying any styles, you should always take a backup of both any files you are modifying and your entire Confluence install directory. If you require assistance with your customisation attempt, you should post your modified files along with a technical description to our Confluence Developer Forum.

**Important Files**

The formatting is defined using the CSS styles in main Confluence stylesheet and overridden by any styles in the Word export wrapper.

**Main Stylesheet**

This file formats the default appearance of all Confluence content. Changes to this document will be shown when viewing a page from within Confluence, as well as in HTML or MS Word exports. You should avoid changing this document unless you wish a style to be changed throughout Confluence. The file is located under the Confluence install directory:

```named-strings
...\confluence\WEB-INF\classes\styles\site-css.vm
```

**Export Wrapper**

This file overrides the main Confluence stylesheet, so styles outlined in this file will be specific to MS Word exports. It set the font and style for body text, some macro and grids, and a default background colour. The file is located under the Confluence install directory:

```named-strings
...\confluence\pages\exportword.vm
```

**How To Modify Styles**
If the CSS tag already exists in the Word export wrapper, you can modify it directly. If the CSS tag is defined by the main stylesheet, copy it into the export wrapper as a new entry in the `<style>` element and update it there:

1. Identify its CSS tag in the main stylesheet. You may need to use trial and error to identify which cascading property is relevant
2. Transfer the tag into the Word export wrapper so that it overrides the main stylesheet
3. Modify the tag style in the wrapper

**Common Modifications**

You can easily set the body font or background colour in the export wrapper.

**Modify Body Font**

The wrapper sets the body font:

```html
body, p, td, table, tr,.bodytext,.stepfield {
  font-family: Verdana, arial, sans-serif;
}
```

**Modify Background Colour**

The wrapper sets the background colour:

```html
<body style="background-color: white; padding: 10px;">
  $page.title
  $renderedPageContent
</body>
```

**Editing the Footer**

- **'Powered by Atlassian Confluence'**
  Atlassian requires that the text 'Powered by Atlassian' be displayed in the footer on every page, as specified in the license agreement. Other than that, you can customise the footer text.

To change the footer text, follow the instructions in Modify Confluence Interface Text. You can specify additional configurations in `/confluence/decorators/includes/footer.vmd`.

If you need to revert to a former version, for example to restore the 'Powered By Atlassian Confluence' text, you can refer to the attached `footer` file.

**RELATED TOPICS**

- Modify Confluence Interface Text
- Customising Look and Feel Overview

**How do i completely remove the "Space Details" page from Confluence exports?**

1. Export to html file extension, and customize the layout from Administration->Layouts->Export Layouts->Space Export Layout
2. Export to PDF file extension, take a look at WEB-INF/classes/com/atlassian/confluence/spaces/Space.pdfexport.vm

**Where does Confluence store all its data?**

Attachments, extensions and configuration files are stored in the **Confluence Home Directory** that is configured when Confluence is first installed. All remaining data resides in the configured database.

See **Important Directories and Files** for more information.

**RELATED TOPICS**

- Important Directories and Files (Confluence Docs 3.0)

**FAQ Home**

**Running Confluence Behind a Caching Proxy Server**

One major concern is Confluence’s ability to withstand a Slashdot, and someone told us that Atlassian had basically said
that Confluence could not handle the load of such an event/attack.

Ideally I would want to put a Squid cache directly in front of Confluence, set the default policy to cache content of normal pages for ~5 minutes (at least) and then pass-through more of the dynamic pages (like the editor & such).

This is, in fact, the case. We don't have any deployed Confluence sites that have the requirement of being Slashdot-proof, but this is probably one of those chicken-and-egg things.

The problem is not one of simple scaleability. We're currently working on "Confluence Massive", a clusterable Confluence that will scale to handle whatever load you feel like throwing at it. But if your aim is to protect the server against sudden, transient loads, throwing a cluster at the problem that will then spend 99% of its time not being utilised is probably a waste. Thus, the best solution is to have some kind of caching reverse-proxy that will divert load away from Confluence itself.

The main problem with the reverse-proxy solution is that every Confluence page is built dynamically for whichever user is currently accessing it. This affects obvious stuff like the "You are logged in as " notice, less obvious stuff like the "edit" and "attachments" links that appear or disappear based on whether the user has permission to perform the action on the other end of the link, and even less obvious stuff like wiki-links to spaces the user can't see, or in-page macros that output their content based on the user's identity.

To run Confluence behind a caching reverse-proxy, you'd need one of:

1. A proxy that understood the user's identity, or
2. A Confluence site that removed all the personalised content for cacheable pages.

If you had (1), you could tell the proxy to cache content only for anonymous users (since all anon content is the same, and to survive a slashdotting you only really have to worry about the sudden influx of non-logged-in users). That said, (1) is quite tricky, as it relies on the existence of some SSO mechanism that both Confluence and Squid can be hooked into. If such a mechanism existed, though, it'd be a really neat solution.

In the absence of SSO, you've got (2), which involves.

- Theme Confluence so that the 'view page' 'view blog post' and 'view mail' pages contain no personalised content: no profile link or user identity, and all links to other functions available whether the user has permission to access them or not.
- Ensure that all wiki pages on the server are meant to be visible to anonymous users
- Disable (or avoid the use of) macros that deliver different content based on user identity
- Introduce an interceptor into Confluence that would provide If-Modified-Since/Last-Modified conditional get support for wiki pages
- Configure Confluence so the site root URL points to a page, rather than the dashboard.
- Configure Squid to cache the 'view page' URLs (/display/* /pages/viewpage.action /pages/viewblogpost.action)

This is assuming that only the site root or a regular wiki page would ever be the victim of a direct slashdotting, but I figure this is a reasonable enough assumption to make.

With conditional get supported, you could have Squid configured to query the server to see if a page has changed, and just put in some kind of sensible defaults for the maximum time to cache any page (5 minutes or so would be fine, since pages could contain dynamic content), and the minimum gap between if-modified queries (15 seconds would easily prevent the server from being overloaded, while making sure that in regular use you wouldn't get many situations where you edited a page, but couldn't see your own changes).

I am trying to install Confluence but the demo-site.zip file is missing

The demo-site.zip is normally located in the WEB-INF/classes/com/atlassian/confluence/setup directory.

There are some cases where the extraction utility used to extract the Confluence installation file will recursively extract the contents of all zip files contained within the installation file. If the demo-site.zip file has been extracted, you will see an entities.xml file in this directory instead.

RELATED TOPICS
- Confluence Setup Guide
- Confluence FAQ

How do I Disable Automatic Mail Polling?

Disabling mail polling in Confluence will prevent Confluence from checking for new mail automatically, but mail retrieval will still work if a user triggers "Check for new mail" manually.

To disable automatic mail polling you would need to restart Confluence with the following parameter in your JVM's JAVA_OPTS:

-Dconfluence.disable.mailpolling=true

RELATED TOPICS
- How do I check which spaces have email accounts
- Recognised System Properties

Disabling Profile Pictures on the Recently Updated Dashboard
To prevent Profile Pictures from being displayed in the Recently Updated Dashboard:

1. Open your `confluence/decorators/global.vmd` file.
2. Edit the following line (change `true` to `false`)

   ```plaintext
   $helper.renderConfluenceMacro("{recently-updated-dashboard:dashboard|showProfilePic=true}"
   
   There is no need to stop or restart Confluence. The change should work on the next refresh of the page.

### How to Disable Profile Pictures from the Recently Updated Section of the Dashboard

**Description**

From Confluence 2.6, the recently updated section of the dashboard displays the profile pictures of the authors next to recently created pages and comments.

**Resolution**

To disable this, please follow the instructions outlined in [disabling profile pictures](disabling_profile_pictures).

### Additional Information

<table>
<thead>
<tr>
<th>Severity</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Expression</td>
<td>`[Dd]isabl(e</td>
</tr>
<tr>
<td>Article ID</td>
<td>CONFKB132382971</td>
</tr>
</tbody>
</table>

Searching Confluence Knowledge Base

### Remove Version from Footer

1) Disable the footer content to be displayed

Remove/comment the following line in the main.vmd file which could also be accessed via Administration > Layouts > Main Layout (if you are using the "Default theme"):

```plaintext
#parse ("/decorators/includes/footer.vmd")
```

2) Modify the message rendered in the footer

This can be done in the `ConfluenceActionSupport.properties` file. See [Modifying Confluence Interface Text](modifying_confluence_interface_text) for a step-by-step guide. The following line is a mapping key to render the footer's message:

```plaintext
powered.by.atlassian.confluence
```

Searching Confluence Knowledge Base

### Configuring a MySQL Datasource in Apache Tomcat

Instructions on setting up a MySQL DataSource connection for Confluence Standalone or EAR/WAR.

- **autoReconnect=true** is required

  The Confluence database connection URL must have `autoReconnect=true` added to the end to prevent disconnection issues.

**Shut down Tomcat**

- Run `bin/shutdown.sh` or `bin/shutdown.bat` to bring Tomcat down while you are making these changes
Install the Drivers

- After unpacking the file you have downloaded, you'll find a file named something like mysql-connector-java-3.0.10-stable-bin.jar.
- Copy this file into the lib directory of your Tomcat installation. Be aware that this directory may be just lib for Tomcat version 6 and beyond.

Configure Tomcat

The configuration is different for Confluence 2.2 onwards due to an upgrade to Tomcat 5.5

For users of Confluence 2.2 and later

- If you are using the Standalone distribution, edit the conf/server.xml file in your Tomcat installation. Users running their own Tomcat instance must edit the xml file where they declared the Confluence Context descriptor.
- If editing conf/server.xml, find the following lines:

```
<Context path="" docBase="../confluence" debug="0" reloadable="true">
    <!-- Logger is deprecated in Tomcat 5.5. Logging configuration for Confluence is specified in confluence/WEB-INF/classes/log4j.properties -->
</Context>
```

- Within the Context tags, directly after the opening <Context.../> line, insert the DataSource Resource tag:

```
<Resource name="jdbc/confluence" auth="Container" type="javax.sql.DataSource" username="yourusername" password="yourpassword" driverClassName="com.mysql.jdbc.Driver" url="jdbc:mysql://localhost:3306/confluence?autoReconnect=true" maxActive="15" maxIdle="7" validationQuery="Select 1"/>
```

- **Replace the username and password parameters with the correct values for your database**
  
  - In the url parameter, replace the word 'confluence' with the name of the database your confluence data will be stored in.
  
  - If you plan to use non-latin characters, you will also need to add "&useUnicode=true&characterEncoding=utf8" on the end of the above URL. These options are not required for any database other than MySQL.

The configuration properties for Tomcat's standard data source resource factory (org.apache.tomcat.dbcp.dbcp.BasicDataSourceFactory) are as follows:

- driverClassName - Fully qualified Java class name of the JDBC driver to be used.
- maxActive - The maximum number of active instances that can be allocated from this pool at the same time.
- maxIdle - The maximum number of connections that can sit idle in this pool at the same time.
- maxWait - The maximum number of milliseconds that the pool will wait (when there are no available connections) for a connection to be returned before throwing an exception.
- password - Database password to be passed to our JDBC driver.
- url - Connection URL to be passed to our JDBC driver. (For backwards compatibility, the property driverName is also recognized.)
- user - Database username to be passed to our JDBC driver.
- validationQuery - SQL query that can be used by the pool to validate connections before they are returned to the application. If specified, this query MUST be an SQL SELECT statement that returns at least one row.

For users of Confluence 2.1.x and earlier

- Edit the conf/server.xml file in your Tomcat installation
- Find the following lines:

```
<Context path="" docBase="../confluence" debug="0" reloadable="true">
    <Logger className="org.apache.catalina.logger.FileLogger" prefix="atlassian-confluence." suffix=".log" timestamp="true"/>
</Context>
```

- Directly after the <Logger.../> line, (before the next <Context/> line), insert the following:
** You may want to choose different maxActive and maxIdle values: these are how many total database connections will be allowed at one time, and how many will be kept open even when there is no database activity

- Replace the username and password parameters with the correct values for your database
- In the url parameter, replace the word 'confluence' with the name of the database your confluence data will be stored in.
- If you plan to use non-latin characters, you will also need to add &useUnicode=true&characterEncoding=utf8 on the end of the above URL. These options are not required for any database other than MySQL.

Configure the Confluence web application

- Edit confluence/WEB-INF/web.xml in your confluence installation
- Go to the end of the file and just before </web-app>, insert the following:

```
<resource-ref>
  <description>Connection Pool</description>
  <res-ref-name>jdbc/confluence</res-ref-name>
  <res-type>javax.sql.Datasource</res-type>
  <res-auth>Container</res-auth>
</resource-ref>
```

Configure Confluence

- If you have not yet set up Confluence
  - Follow the steps in the Confluence Setup Guide
  - In the Database Setup section, choose the "Datasource Connection” option.
  - Set the JNDI name to java:comp/env/jdbc/confluence
  - Set the Database dialect to MySQL.
- If you are changing an existing Confluence installation over to using a Tomcat datasource
  - Find your ConfluenceHome directory (see: Confluence Home Directory if you don't know where it is).
  - Edit the confluence.cfg.xml file.
  - Delete any line that contains a property that begins with hibernate.
  - Insert the following at the start of the <properties> section.

```
<property name="hibernate.setup">true</property>
<property name="hibernate.dialect" value="net.sf.hibernate.dialect.MySQLDialect"/>
<property name="hibernate.connection.datasource" value="jdbc:mysql://localhost:3306/confluence?autoReconnect=true"/>
```

Restart Confluence
Run `bin/startup.sh` or `bin/startup.bat` to start Tomcat with the new settings.

F.A.Q.

I see "Can’t call commit when autocommit=true" during an upgrade of Confluence or otherwise.

Check out [http://jira.atlassian.com/browse/CONF-1710](http://jira.atlassian.com/browse/CONF-1710) This error can be fixed by adding: 
```
&relaxAutoCommit=true
```
to the end of your JDBC url.

Example:
```
jdbc:mysql://localhost/confdb?autoReconnect=true&relaxAutoCommit=true
```

This JDBC url can be found in your confluence.cfg.xml file located in your confluence home folder.

Installation FAQ

This section contains solutions for common issues encountered when installing and starting Confluence, including solutions to common queries about this process.

If necessary, review your logs by opening the Confluence install directory and checking the `/logs/catalina.out` and `/logs/catalina.out` files for errors you may encounter.

View one of the following issues or queries for more information:

- The Confluence window closes immediately when started
- How do I re-trigger the setup wizard
- Confluence starts but a problem prevents me from accessing the dashboard
- I receive a BUILD FAILED message when trying to create an EAR file in Confluence 2.6 or 2.7
- How much disk space does Confluence need?
- How Do I Make Confluence Accessible from the Root Context with a Tomcat EAR WAR configuration
- How To Run Confluence Standalone and Apache on Port 80 (Different IP Addresses)

The Confluence window closes immediately when started

An error is preventing Confluence from starting.

1. Open a command prompt. On Windows, do this by clicking on your Start menu, then click Run. In the Run box, type `cmd` and press OK
2. From the command prompt, go to your Confluence install directory
3. Go into the `bin` subdirectory
4. Run `startup.bat` and read the error message
5. Find a solution to the error below:
   - `java.lang.NoClassDefFoundError IntraHibernateAttachmentCopier`
   - `Exception in thread "main" java.lang.NoClassDefFoundError: ...`
   - `Error creating Confluence Home directory`
   - `JAVA_HOME environment variable is not defined correctly`
   - `Port 8080 is in use`
   - `Error creating bean with name 'scheduler'`
   - `Error registering bean with name 'fileSystemAttachmentDataDao'`

`java.lang.NoClassDefFoundError IntraHibernateAttachmentCopier`

If you are seeing "java.lang.NoClassDefFoundError: com/atlassian/confluence/pages/persistence/dao/hibernate/AbstractHibernateAttachmentDataDao$IntraHibernateAttachmentCopier", you have unzipped Confluence using a program that cannot handle long filenames. You must delete your install directory and go back to the point in the instructions that covers unzipping Confluence using a third-party unzip program.

`Exception in thread "main" java.lang.NoClassDefFoundError: ...`

If `http://localhost:8080` goes to an error page when you run Confluence, go to the install directory and find the `/logs/catalina.out`. If this file contains a single line error starting with "Exception in thread "main" java.lang.NoClassDefFoundError", your install path may contain spaces. The solution is to rename your install directory path so that there are no spaces, then restart Confluence.

`Error creating Confluence Home directory`

The confluence.home variable specified in confluence-init.properties cannot be created. To fix this, edit `/confluence/WEB-INF/classes/confluence-init.properties` and check the path specified exists. Make sure all the directory slashes use `/` and that the `#` has been removed. If you're stuck, try using `confluence.home=c:/confluence/data`

`JAVA_HOME environment variable is not defined correctly`

You have not installed the Java Development Kit, or not set the `%JAVA_HOME%` to the directory of the JDK. You should re-check your steps in Stage 2.
Port 8080 is in use
If you have another Tomcat running on the same machine, you must edit <INSTALL>/conf/server.xml and change both 8080 and 8005 to ports that do not conflict with your other Tomcat instance according to these instructions.

Error creating bean with name 'scheduler'
You will need to adjust your system time.

Error registering bean with name 'fileSystemAttachmentDataDao'
If you did not use one of the recommended unzipping tools, and happened to use for instance the one of the default Windows XP extractor, one of the classes required for starting up Confluence may not be located due to the lengthy file path. This is due to the reason that the default Windows tool silently fails to extract files with long names. We suggest you to use other tools such as WinZIP and 7zip and redo the deployment process.

Cause:
org.springframework.beans.factory.BeanDefinitionStoreException: Error registering bean with name 'fileSystemAttachmentDataDao' defined in class path resource [applicationContext.xml]: Class that bean class [com.atlassian.confluence.pages.persistence.dao.FileSystemAttachmentDataDao] depends on not found; nested exception is java.lang.NoClassDefFoundError:
com/atlassian/confluence/pages/persistence/dao/FileSystemAttachmentDataDao$FileSystemAttachmentNamingStrategy
at org.springframework.beans.factory.xml.DefaultXmlBeanDefinitionParser.parseBeanDefinition(DefaultXmlBeanDefinitionParser.java:366)
caused by: java.lang.NoClassDefFoundError:
com/atlassian/confluence/pages/persistence/dao/FileSystemAttachmentDataDao$FileSystemAttachmentNamingStrategy
at java.lang.Class.forName0(Native Method)

How do I re-trigger the setup wizard
To re-trigger the setup wizard:
1. Ensure the application server (for example, Apache Tomcat) running Confluence has been stopped.
2. Delete <confluence-home>/confluence.cfg.xml.
3. Re-start Confluence's application server and then Confluence.

Confluence starts but a problem prevents me from accessing the dashboard
Find a solution to one of these problems below:

- localhost:8080 times out
- localhost:8080 goes to the Tomcat start homepage
- Logins fail at the login screen

localhost:8080 times out
Check the server logs for errors. If you are running Confluence Standalone on Windows, error messages will be printed to the console window that opened when you ran startup.bat. On Unix systems, Confluence will log messages to logs/catalina.out.

localhost:8080 goes to the Tomcat start homepage
The CATALINA_HOME environment variable is set to another instance of Tomcat. You should run shutdown.sh, remove the CATALINA_HOME reference to the other Tomcat version, and run startup.sh again.

Logins fail at the login screen
If you try to login with the correct username and password but are always returned to the login screen without any error messages, and you are running Zone Alarm, please check that it is not blocking the Confluence server.

I receive a BUILD FAILED message when trying to create an EAR file in Confluence 2.6 or 2.7
When trying to create a EAR file, you may encounter with the following error:

BUILD FAILED

This is due to the build.xml file being incorrect for Confluence 2.6.x and 2.7.0. This problem will be fixed for future releases. However for these releases, please open the build.xml file and change the following two lines:

From:
To:

How much disk space does Confluence need?

For the recommended minimum amount of disk space, please see the 'Requirements' section in the Installation Guide.

Note that the actual disk space needed will depend significantly on the number of attachments (i.e. files which users attach to Confluence pages), and on the sizes of the attachments. You can calculate the hard drive requirements as you would with any standard file server.

RELATED TOPICS

Important Directories and Files (Confluence Docs 3.0)

FAQ Home

How Do I Make Confluence Accessible from the Root Context with a Tomcat EAR WAR configuration

Tomcat uses the ROOT.xml file to describe the root context. To make Confluence run at the Root, name the file that contains the context descriptor for Confluence ROOT.xml in the conf/Catalina/localhost/ directory. This is described in Installing the Confluence EAR-WAR Edition.

How To Run Confluence Standalone and Apache on Port 80 (Different IP Addresses)

To Configure Confluence to run on port 80 alongside another web service already on Port 80, you can add an "address" attribute to the connector element where address="<IP address on which Tomcat-Standalone is running >"

Change the server.xml file by adding the element:

```xml
<Connector className="org.apache.coyote.tomcat4.CoyoteConnector" address="192.168.1.1" port="9080" maxProcessors="75" enableLookups="true" redirectPort="8443" acceptCount="100" debug="0" connectionTimeout="20000" useURIValidationHack="false" disableUploadTimeout="true" />
```

Also change the hostname from localhost to the relevant host name, in the file above, on the same IP.

JIRA Integration FAQ

This section contains solutions for common issues or queries associated with Confluence’s JIRA integration features, such as its JIRA Issues Macro or JIRA User Management integration.

View one of the following issues or queries for more information:

- The JIRA Issues Macro behaves problematically
- The JIRA Issues Macro generates an error
- When setting up JIRA user management in Confluence, the Confluence login page loads but login fails
- When setting up JIRA user management in Confluence, the Confluence login page loads with an error

The JIRA Issues Macro behaves problematically

When the JIRA Issues Macro is used, one of the following problems may occur:

- Cannot access issues when JIRA uses HTTPS
- Issue icons are not displayed
**RELATED TOPICS**

**Cannot access issues when JIRA uses HTTPS**

Take a look at the Confluence Knowledge Base article on problems connecting to SSL services.

**Issue icons are not displayed**

Check that you are using the correct macro version for JIRA.

**RELATED TOPICS**

JIRA Issues Macro

Setting Up Trusted Communication between JIRA and Confluence

The JIRA Issues Macro generates an error

When the JIRA Issues Macro is used, one of the following errors is generated:

- The message 'Error Rendering Macro' is displayed, or either no or not all issues are displayed
- The message 'Error rendering macro: java.io.IOException: Could not download' is displayed
- The message 'Error rendering macro: java.io.IOException: Error on line -1: Premature end of file' is displayed

The message 'Error Rendering Macro' is displayed, or either no or not all issues are displayed

You may need to set up trusted communication between JIRA and Confluence. Please refer to the section on restricted viewing.

The message 'Error rendering macro: java.io.IOException: Could not download' is displayed

You may need to configure Confluence to acknowledge your proxy server before it is able to download the feed.

The message 'Error rendering macro: java.io.IOException: Error on line -1: Premature end of file' is displayed

Did you select an existing JIRA filter when you built the macro? If you did, your issues filter URL will end with .../12345/SearchRequest-12345.xml where 12345 is any number. You should retry using a new and unsaved filter.

**RELATED TOPICS**

JIRA Issues Macro

Setting Up Trusted Communication between JIRA and Confluence

The JIRA Issues Macro behaves problematically

When setting up JIRA user management in Confluence, the Confluence login page loads but login fails

When setting up JIRA user management in Confluence, the Confluence login page loads but login fails with one of the following errors:

- The Confluence login page loads but login fails with a 'Username and password are incorrect' error and the output log shows 'Access denied for user'
- The Confluence login page loads but login fails with a 'Username and password are incorrect' error and the output log shows 'Cannot create JDBC driver'
- I cannot get my JIRA integration to work, where can I get technical support?

The Confluence login page loads but login fails with a 'Username and password are incorrect' error and the output log shows 'Access denied for user'

This is caused by an incorrect database URL or login in the datasource.

The Confluence login page loads but login fails with a 'Username and password are incorrect' error and the output log shows 'Cannot create JDBC driver'

If your log outputs an error with "FATAL [user.provider.jdbc.JDBCCredentialsProvider] Could not list users. org.apache.commons.dbcp.SQLNestedException: Cannot create JDBC driver of class '' for connect URL 'null';", you are using the incorrect Tomcat format for specifying the Datasource resource. You should check your Tomcat version and use the alternative format.

I cannot get my JIRA integration to work, where can I get technical support?

See Requesting External User Management Support for information on logging a support request.
When setting up JIRA user management in Confluence, the Confluence login page loads with an error

When setting up JIRA user management in Confluence, the Confluence login page loads with one of the following errors:

- An error is encountered when JIRA is using Microsoft SQL Server
- The Confluence login page loads with a 'NullPointerException' system error
- The Confluence login page loads with 'HTTP Status 404' and the output log shows a 'java.lang.ClassNotFoundException' error for the driver, eg 'com.mysql.jdbc.Driver'

An error is encountered when JIRA is using Microsoft SQL Server

There is a known issue when JIRA is using Microsoft SQL Server and the schema name is 'jira'. Unfortunately in Confluence, you cannot define this schema name. Please refer to Knowledge Base article CSP-19533.

The Confluence login page loads with a 'NullPointerException' system error

If the page loads with 'System error' with cause 'java.lang.NullPointerException at com.atlassian.user.impl.osuser.OSUUserManager.getOpensymphonyUser(OSUUserManager.java:85)' and output logs shows 'user.provider.jdbc.BaseJDBCProvider] init Could not look up DataSource using JNDI location' error, either the Resource for the DataSource is not being loaded by the application server, or it is being loaded but the resource names do not match. Check the names first, so if '/confluence/WEB-INF/classes/osuser.xml' specifies a datasource named 'java:comp/env/jdbc/JiraDS', the datasource specified in server.xml or confluence.xml must be 'jdbc/JiraDS'.

The Confluence login page loads with 'HTTP Status 404' and the output log shows a 'java.lang.ClassNotFoundException' error for the driver, eg 'com.mysql.jdbc.Driver'

The database driver library is missing from your Confluence/application server installation. In your Confluence Standalone or Apache Tomcat installation, download the database jar to the common/lib directory.

LDAP FAQ

This section contains solutions for common issues or queries associated with LDAP integration in Confluence.

View one of the following issues or queries for more information:

- Are all users in LDAP visible in Confluence administration and can they be assigned permissions or to groups?
- Can we use LDAP and Confluence groups simultaneously, as a 'mixed mode', where some groups are kept in Confluence and others in LDAP?
- Confluence Domino LDAP FAQs
- Confluence integration with LDAP and Active Directory FAQs
- How are LDAP or Active Directory users counted toward my license limit?
- How can I assign an LDAP user a Confluence account?
- How can I enable LDAP?
- How does Confluence handle user deletions from LDAP? Is the user’s assignment to one or more groups still visible?
- I am having a problem with Confluence LDAP integration
- I enabled LDAP and some users are now returned twice under the user browser
- If a Confluence user had a lowercase username, but an LDAP user has the same username in UPPERCASE, does it matter which one I use?
- If a user already exists in Confluence and an LDAP user with the same username is added, which account’s password gets used?

Other Questions

For troubleshooting, please create a problem report. General enquiries should be posted to a support ticket.

RELATED TOPICS

LDAP User Management

Are all users in LDAP visible in Confluence administration and can they be assigned permissions or to groups?

All LDAP users with 'Can Use' permission can be viewed from the user browser, even if they have never logged in. When an LDAP user logs in for the first time, a Confluence user account is created automatically to store their information. You have read-only access to LDAP groups, and can add/remove Confluence internal groups to any user.

Can we use LDAP and Confluence groups simultaneously, as a 'mixed mode', where some groups are kept in Confluence and others in LDAP?

Yes.
Confluence 3.0 Documentation

Confluence Domino LDAP FAQs

Find an answer to one of these questions below:

- Why are individual users always shown as not belonging to any groups?

Why are individual users always shown as not belonging to any groups?

Domino servers allow user groups to be set as ‘mail-only’, ‘access control’ and ‘multi-purpose’. If the groups are set to ‘mail-only’, when Confluence queries the Domino LDAP server about a given user, Domino will return null. Groups that are created as ‘multi-purpose’ seem to work fine.

Confluence integration with LDAP and Active Directory FAQs

Find an answer to one of these questions below:

- Can Confluence make distinctions between security and distribution groups, or group types?
- Can group memberships be retrieved from multi-domain forests?
- Can Confluence support multiple Active Directory repositories?
- Can Confluence handle nested groups?

Can Confluence make distinctions between security and distribution groups, or group types?

No, Confluence has no group types. However, you can configure Confluence to only recognise some of these groups over others. For example, you can configure Confluence to only recognise distribution groups. This is done by adjusting the `groupSearchFilter` in your `atlassian-user.xml` file.

Can group memberships be retrieved from multi-domain forests?

Yes, you can do this by configuring multiple repositories: one for each domain. More instructions on how to do this can be found [here](#).

Can Confluence support multiple Active Directory repositories?

Yes.

Can Confluence handle nested groups?

No, each child group must be individually specified instead. You may wish to vote towards support for nested groups at [USER-101](#).

How are LDAP or Active Directory users counted toward my license limit?

Your user count is determined by the number of internal users plus the number of LDAP users who can potentially login. LDAP users that are a member of an LDAP group with 'Can Use' permission granted in Confluence can all potentially login, which means that all members of groups with this permission granted will be counted towards your license. To manage your license usage, only grant login permission to Active Directory groups where all members need accounts. You may like to setup a special confluence LDAP group if no combination of your existing groups is suitable.

How can I assign an LDAP user a Confluence account?

LDAP groups or users granted 'Can Use' permission under 'Global Permissions' can login to Confluence.

How can I enable LDAP?

See [Add LDAP Integration](#).

How does Confluence handle user deletions from LDAP? Is the user's assignment to one or more groups still visible?

Users are not deleted from Confluence, but their logins are disabled within one hour as they expire in the cache. Only non-LDAP groups are retained. Refer to the [overview](#) for more detail.

I am having a problem with Confluence LDAP integration

Find a solution to one of these problems below:

- I just added LDAP integration, why can't I login using my original account?
- Why do my LDAP users sees 'Not Permitted' screens when they login?
- Confluence fails to start with error 'Error creating bean with name 'userManager' defined in class path resource
Editing a user under Administration -> Manage Users throws an error 'org.apache.velocity.exception.MethodInvocationException'

After setting up LDAP, I cannot see LDAP users or groups from the Confluence user or group browser

I cannot see an LDAP/AD group in Confluence

I cannot get my LDAP to work, where can I get technical support?

I just added LDAP integration, why can't I login using my original account?

If there is an LDAP user with the same username as your administrator account, you must now use their password to login. LDAP logins override internal logins.

Why do my LDAP users sees 'Not Permitted' screens when they login?

To login, the user must be a member of one or more groups that have been granted 'Can Use' permission from the Administration -> Global Permissions -> Group Permissions.

Confluence fails to start with error 'Error creating bean with name 'userManager' defined in class path resource [atlassianUserContext.xml]'

Your atlassian.xml file may contain filters with characters that must be escaped from XML. Check here for details.

Editing a user under Administration -> Manage Users throws an error 'org.apache.velocity.exception.MethodInvocationException'

If you see an error:

You should open \confluence\WEB-INF\classes\atlassian-user.xml and check that your Hibernate Repository is not wrapped in a comment tag (<!-- and -->). The line to uncomment is:

```xml
<hibernate name="Hibernate Repository" key="hibernateRepository" description="Hibernate Repository" />
```

After setting up LDAP, I cannot see LDAP users or groups from the Confluence user or group browser

Are your users or groups located in subtrees beneath the directory returned by the search filter? If so, you may need to add <usersearchalldepths>TRUE</usersearchalldepths> or <groupsearchalldepths>TRUE</groupsearchalldepths> to your atlassian-user.xml See Map LDAP Users and Groups for details.

I cannot see an LDAP/AD group in Confluence

Is the group in a subtree? If so, you will need to edit atlassian-user.xml and add a groupSearchAllDepths=true parameter to the LDAP repository to set Confluence to search subtrees of the base group namespace. See Map LDAP Users and Groups for details.

I cannot get my LDAP to work, where can I get technical support?

See Requesting External User Management Support for information on logging a support request.

I enabled LDAP and some users are now returned twice under the user browser

When LDAP is enabled, it is normal for the user browser to return two copies of users who have both LDAP and internal users accounts. If you are interested in a fix for this, please vote towards "User browser shows duplicate accounts when a user exists both locally and in LDAP".

If a Confluence user had a lowercase username, but an LDAP user has the same username in UPPERCASE, does it matter which one I use?

As mentioned in another FAQ, LDAP login has priority over the confluence login. However, only the password is taken into account here. You can log in with either the lowercase or UPPERCASE username.

If a user already exists in Confluence and an LDAP user with the same username is added, which account’s password gets used?

The LDAP login has priority over the Confluence login. If LDAP 'Can Use' permission is removed or the user is deleted, the Confluence login will still work.

Mail Archiving FAQ

This section contains solutions for common issues or queries associated with Confluence's Mail Archiving feature that was introduced in Confluence 1.3.

View one of the following issues or queries for more information:
Can Confluence replace my regular mail client?

No.

Confluence's mail archive is designed to supplement the way you currently handle email, not to replace it. This is why Confluence deliberately does not come with features common in email clients. For example, you can not mark emails as read or unread, you can not reply to emails from within Confluence, and so on.

How do I get mail into Confluence?

All mail messages belong to a particular space.

From the space administration screen, space administrators can:

- Configure Confluence to poll a POP mailbox for incoming mail
  1. Go to Space Admin
  2. Choose "Mail Accounts"
  3. Add Pop Account

- Import mail from an mbox-format mail file

Confluence will delete mail from a POP box as it reads it. Do not point Confluence to an account unless you are happy with it removing all the mail you have stored there.

How do I use the mail archive?

Some suggested scenarios include:

Project-related conversations

Say you are using a Confluence space to organise a project. The project lead and the customer have a long conversation (via email) clarifying the project's goals and requirements. Rather than have that conversation lost in their individual mailboxes, if they CC'ed their mail to a POP box being monitored by Confluence, all that information will be archived alongside the rest of the project's documentation.

Customer Support Tracking

All incoming and outgoing sales and support email is diverted (at the mail-server) to be read by Confluence. Staff can then use Confluence's features to find all previous communications with particular customers.

And?

Of course, the real fun will come from seeing how this feature can be put to other uses.

Okay, I've imported the mail, but where is it?

Because of the typically overwhelming volume of email, especially compared to the more sedate pace of wiki updates, we do not notify you of recently arrived mail in the same places we notify you of changed Confluence content.

Mail will not appear in the recent changes list on the dashboard or space summary pages. Similarly, mail will not appear by default in search results.

You can view mail...

1. In order of arrival from the Mail Archive section, found under the Content tab of the Space Summary screen.
   a. 'Browse' Dropdown menu > Mail
2. You can also explicitly select Mail (or All Content) in the search page to include mail in your search results
3. Use the Recently Updated Macro to display, for example, the latest archive of mail on any Confluence Page
New User FAQ

This section contains solutions for common issues or queries encountered by new Confluence users.

View one of the following issues or queries for more information:

- Can I use CamelCaseLinks like they do on WardsWiki?
- Can Users Edit Individual Sections Within a Page?
- How does Confluence differ from a wiki?

Can I use CamelCaseLinks like they do on WardsWiki?

Yes you can. Camelcasing is not enabled by default but a site administrator can easily enable it from the administration screens.

See Enabling CamelCase Linking.

Can Users Edit Individual Sections Within a Page?

Some wiki software allows the editing of sections within a page (sectional editing). This functionality is currently not available in Confluence, but we are looking to include it in a future release. This issue is being tracked on the Confluence JIRA project: CONF-5913.

In the meantime, for pages that are getting long enough to be hard to edit in a single block, you can get an approximation of sectional editing by using the {include} macro. For example:

```markdown
h3. [Section One] 
{include:Section One}

h3. [Section Two] 
{include:Section Two}
```

The links to the edit pages can be simplified by using the {link-to:page edit} macro available in David Peterson's Linking Plugin.

Technical Stuff

The problem lies in the complexity of Confluence's wiki markup. We made a couple of proof-of-concept implementations of sectional editing as part of our ShipIt Day program, and while it's quite easy to come up with a solution that works with 90% of pages, there are a lot of edge-cases where it's actually quite hard to determine precisely where a given section starts and finishes.

Next time we perform a significant overhaul of our wiki markup processing engine, we'll be looking specifically to add functionality that will make sectional editing work properly.

How does Confluence differ from a wiki?

Essentially, Confluence is a wiki. Our aim was to build an application that was built to the requirements of an enterprise knowledge management system, without losing the essential, powerful simplicity of the wiki in the process.

From the wiki, we took the following lessons:

- It should be easy for anyone to create and edit pages
- It should be easy for anyone to link pages together
- It should be easy to see what has changed recently
- The site should be searchable
- Users should have the tools to organise and group pages without having any particular structure imposed upon them

On top of that, we added professional features, such as the partitioning of content into separately managed spaces, user- and group-based access control, automated refactoring, PDF exporting, searchable attachments, a comprehensive remote API, easy installation and a professional and easy-to-use presentation; all wrapped up in Atlassian's "Legendary Service".
RSS Feeds FAQ

This section contains solutions for common issues or queries associated with RSS Feeds and the RSS Feed Macro.

View one of the following issues or queries for more information:

- Create an RSS feed for mail from only specified mail accounts
- How do I fix a "Could not download (Feed URL) - Connection timed out (errno238)" error?
- How do I fix a "Could not retrieve (Feed URL) - Not Permitted" error?
- How do I fix an "Error formatting 'macro rss java.lang.NullPointerException" error?
- How do I fix an "Unable to retrieve (Feed URL) - Connection refused - connect" error?
- How do I force authentication for public feeds?
- Is it possible to delete a feed?
- I want to remove RSS Feeds completely

Create an RSS feed for mail from only specified mail accounts

This is not possible, but you can vote towards tagging incoming mail with labels on arrival. Once tagged, feeds could monitor all new mail with that label.

How do I fix a "Could not download (Feed URL) - Connection timed out (errno238)" error?

The feed source may be offline, or the firewall may be blocking access either between the Confluence server any your computer. Confirm that you can access the feed URL from your browser. If it cannot, your firewall settings may be blocking access to Confluence. For example, your server may be configured to block outgoing requests.

How do I fix a "Could not retrieve (Feed URL) - Not Permitted" error?

You must append a valid login to Private Feeds as described in the Usage section of the RSS Feed Macro.

How do I fix an "Error formatting 'macro rss java.lang.NullPointerException" error?

The link is not a valid feed, so check your URL. If stuck, you can recreate internal Confluence feeds Using the RSS Feed Builder.

How do I fix an "Unable to retrieve (Feed URL) - Connection refused - connect" error?

The URL is invalid. If the link appears correct, confirm that you can access Confluence. Paste the feed into a third-party RSS feed reader and confirm that it can access it. If it cannot, your firewall settings may be blocking access to Confluence. For example, your server may be configured to block outgoing requests.

How do I force authentication for public feeds?

With anonymous access enabled, you can force user authentication when creating the feed by checking 'Authorised'. If anonymous access is disabled, all feeds will require user authentication.

Is it possible to delete a feed?

No, because RSS feeds are based on the view permissions for pages and spaces. RSS is an extension of normal page viewing functionality, so if you can view a page, you can receive an RSS feed for it. The only way to remove an RSS feed is to prevent all access to a page for that user, so that no content will be delivered.

I want to remove RSS Feeds completely

While Confluence does not have this functionality, there is a work around to remove RSS feeds completely. Refer to How do I Disable RSS Feeds?

Upgrade FAQ
This section contains solutions for common issues and queries encountered when upgrading Confluence.

View one of the following issues or queries for more information:

- I cannot find the "Rich Text" editor. Is the editor part of Confluence 1.4.3?
- Server ID FAQ
- Upgrade My Trial To A Commercial Version

I cannot find the "Rich Text" editor. Is the editor part of Confluence 1.4.3?

The Rich Text Editor (aka WYSIWYG editor) is available in Confluence 2.0 and upwards. Rich Text editing is enabled by default.

If you wish to upgrade your Confluence installation, instructions can be found here.

**RELATED TOPICS**

- [Enabling Rich Text Editing Option](https://confluence-docs.org) (Confluence Docs 3.0)
- [Making Rich Text Editing default](https://confluence-docs.org) (Confluence Docs 3.0)

**Server ID FAQ**

**What causes this Server ID to be generated? Is it tied to the hardware, OS, or Confluence instance?**

The Server ID:

- is generated when you install Confluence for the first time
- exists for the life of the Confluence instance
- survives an upgrade
- is held in the database
- is not bound to a specific licence
- is the same for all servers in a cluster.

**What's the policy on re-associating licenses with server IDs?**

There's no need to do this. Once you have a Server ID associated to a license, you can leave it as is.

**What happens when I need to reinstall (quickly) on a different system?**

Because the server ID is held in the database, it travels with the instance when the database or XML backup is restored on the new system. You need not generate a new Server ID for your new system.

**What do I do when the license screen from my.atlassian.com is asking for my Server ID?**

The Server ID is located on the license screen. If you have only a License ID, you may bypass the requirement to enter a Server ID - just look for the link from my.atlassian.com on my.atlassian.com after choosing "associate server ID." Check [Unable to Find Server ID for Confluence 2.5.4 or Before](https://confluence-docs.org) for further info.

**Additional Information**

<table>
<thead>
<tr>
<th>Severity</th>
<th>Low</th>
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<tbody>
<tr>
<td>Article ID</td>
<td>CONFKB151519275</td>
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Searching Confluence Knowledge Base

**Upgrade My Trial To A Commercial Version**

First, you will need to purchase Confluence to receive your commercial license key. If you already have a free 30 day evaluation then you can easily convert this to the commercial version, or setup your commercial instance on another system and transfer your trial data across.

**Upgrade A Trial To The Commercial Version**

If you wish to change your trial into a commercial version while keeping the same hardware, login in as a Confluence administrator and past

1214
in your commercial license key under the Administrator > License Details screen. The conversion to a commercial version is instantaneous and can be done regardless of whether your evaluation period has expired or is still ongoing.

**Migrate Your Trial Data To A Server**

If you installed your Confluence trial on a PC but wish to host your commercial version on another system, such as a server managed by your IT department, you can transfer the trial data across. Begin by creating an XML backup on the trial PC, then install Confluence on the commercial server. During installation, you will be presented with the Confluence Setup Wizard. The wizard gives you the opportunity to insert your commercial license key and also to import an XML backup. If you import the XML backup from your trial, your commercial instance will be setup already containing all your trial wiki content and any internal users.

**Usage FAQ**

This section contains solutions for common issues or queries about the everyday use of Confluence.

View one of the following issues or queries for more information:

- Add many files to a page at once
- Create a page by passing parameters to a template
- How do I obtain content that hasn't been modified in a certain period of time
- How to Add a Quick Search for Firefox
- How to Find Pages with no Label
- How to Make Confluence Open a New Tab when Clicking on the Attachments Link
- How to Reset a Custom Layout
- Redirect to a specific page (home page) within the site after logging in
- Setup email notifications of page updates

**Add many files to a page at once**

Confluence pages and attachments can be mounted as a network drive, and files can be dragged and dropped into Confluence using the WebDav plugin. Alternatively, users who do not wish to use WebDav can write a custom script to attach all PDF files in a directory to a Confluence page using the addAttachment function in the Remote API. This script can be adapted from one of the Remote API script examples.

**Create a page by passing parameters to a template**

Confluence supports populating wiki content through templates. Check out Page Templates if you would like to create a new page by filling in a graphical, form-based template. If you have an existing page and would like to pass text as parameters to a macro that fills in the blanks in a template, create the template as a User Macro and call it from inside your Confluence page.

**How do I obtain content that hasn't been modified in a certain period of time**

This can be achieved by running the following SQL query on your Confluence database.

```
select * from content as c, spaces as s where c.spaceid = s.spaceid and s.spacename='INSERT SPACE NAME HERE' and c.LASTMODDATE < 'INSERT DATE HERE';
```

**How to Add a Quick Search for Firefox**

**Description**

To add a quick search term into Firefox's address bar, add the following link to your bookmarks:

```
http://confluence.atlassian.com/dosearchsite.action?quickSearch=true&searchQuery.queryString=%s
```

Make a keyword for it, and you can search a confluence instance using the keyword, a space and then the search term. For example, if you use the keyword cac with the above link, you can search confluence using:

```
cac searchterm
```

Searching Confluence Knowledge Base

**How to Find Pages with no Label**
You can use the Label Management Plugin to find out pages that contain no labels.

**Severity** | Low
---|---
**Regular Expression** | ([Uu]nlabeled pages|pages with no label|pages without label)
**Article ID** | CONFKB154239468

Searching Confluence Knowledge Base

## How to Make Confluence Open a New Tab when Clicking on the Attachments Link

Modifying the template file in confluence-attachments-plugin-x.x.jar (in this case, I try on confluence-attachments-plugin-2.10.jar). Please edit attachmentsmacro.vm file. This file is located in confluence-attachments-plugin-2.10.jar file. Extract this file by using the [Editing files within jar archives guide] guide.

If you are able to extract it successfully, you can locate to attachmentsmacro.vm file and find the following lines:

```html
<\td><a name="$generalUtil.urlEncode($page.title)-attachment-$generalUtil.urlEncode($attachment.fileName)"
>
$\parse="/\pages\includes\attachment_icon.vm"
<a href="$req.contextPath$attachment.downloadPathWithoutVersion">$attachment.fileName</a></\td>
```

and change the above code to be:

```html
<\td><a name="$generalUtil.urlEncode($page.title)-attachment-$generalUtil.urlEncode($attachment.fileName)"
>
$\parse="/\pages\includes\attachment_icon.vm"
\a target="_blank" href="$req.contextPath$attachment.downloadPathWithoutVersion">$attachment.fileName</a></\td>
```

After making changes, please repack the file by following the steps [here].

### Additional Information

**Severity** | Medium
---|---
**Regular Expression** | attachments in a new tab
**Article ID** | CONFKB160792804

Searching Confluence Knowledge Base

## How to Reset a Custom Layout

If the layout has changed so extensively as to not be visible, you can browse to the URL directly:

```
http://<confluence base url>/admin/resetdecorator.action?decoratorName=decorators/main.vmd
```

Substitute the base URL and the appropriate vmd file.

### Redirect to a specific page (home page) within the site after logging in

As a user, you can set the home page to which you are sent after logging in.

To set your home page as a user:

1. View your profile via the profile link on the top right
2. Click the Edit My Profile on the right
3. Set Site Homepage to your desired home page

For instructions on configuring this feature at the administrator level, see Redirect users to a site-wide home page after a successful login.
**RELATED TOPICS**

Redirect users to a site-wide home page after a successful login

**Setup email notifications of page updates**

Confluence sends notifications of changes to spaces or pages to users who are watching pages. Users choose to watch pages or spaces, an administrator does not force notifications upon them.

There is one way to automatically have users watch a given page or news item. The Autowatch Plugin can be set up to have anyone who contributes to a space watch the content they have contributed to. Eg. if they comment on a page, they will be set to watch that page for further updates. This should be used with care.

To set up a watch on a specific page or space as a user, see:

- Watching a Page
- Watching a Space

For instructions on configuring administrator-level email notifications, see Configuring Confluence to send email notifications.

**RELATED TOPICS**

Configuring Confluence to send email notifications

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**Confluence User Guide**

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**Download**

You can download the Confluence documentation in PDF, HTML or XML formats.
## Get Familiar with the Confluence Workspace

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Appendix C - Keyboard Shortcuts

Keyboard Shortcuts

Appendix D - Glossary

Confluence Glossary
Working with Pages Overview

Pages are the primary means of storing and sharing information in Confluence. Pages are contained within spaces.

- Use spaces to organise your wiki content into your primary logical groups. For example, you could have a space per team, per product or per department.
- Use pages to organise your content into lower-level groups. For example, you could have a page for a particular team activity, or for a feature in a product, or for a chapter in a book. Then add more child pages to contain lower-level details if necessary.

Things you can do with pages in Confluence:

- Create a new page from anywhere within the site.
- Write content in a simple markup language or using the Rich Text editor.
- Edit and rename a page.
- Organise pages hierarchically via parent-child relationships.
- Move pages while editing a page or while viewing the space’s Tree view.
- Navigate within and between spaces through flexible linking.
- Collaborate via comments on a page.
- Control access through page security restrictions.
- Monitor page updates and other activity through page notifications.
- View page history and link to older versions.
- Search page content, including attachments.
- Export pages to PDF, WORD, HTML or XML.
- Email page content.

RELATED PAGES

Creating a New Page
Overview of the Confluence Notation Guide
Working with Page Families
Working with Drafts
Working with the Office Connector
Recently Viewed Content

Take me back to Confluence User Guide

E-mailing a Page

In Confluence, you can easily e-mail a Confluence page to recipients of your choice.

To e-mail a Confluence page,

1. Go to the 'Information' view for the page. To do this:
   - Go to a page in the space, open the 'Tools' menu and select 'Info'. The 'Information' view will open.
2. In the first box displayed, click the 'E-mail' link (beside 'Operations').
   - This may not be visible if this feature is turned off — see note at the bottom of this page.
3. This will display a box for you to enter the e-mail details (see screenshot below).
   - **Recipients: E-mail address(es)** — To send the email to someone who isn’t a Confluence user, type their email address. You can type multiple addresses, separated by commas.
   - **Recipients: Confluence Group(s)** — Type the name of the Confluence group (or groups, separated by commas); or click this icon to select a group from the list.
   - **Recipients: Confluence User(s)** — Type the name of the Confluence user (or users, separated by commas); or click this icon to select a user from the list.
   - **Subject** — (Optional) Type the email's subject line.
   - **Notes** — (Optional) Type the text (if any) which you want to appear at the top of the email's body. This text will appear before the contents of the Confluence page.
   - **Format** — Choose whether to send the email in 'Text' or 'HTML' format.
4. Click the 'Next' button.
5. A preview of your email will be displayed.
   - To change the Recipients, Subject, Notes or Format, click the 'Edit' button (at the right of the page).
   - To send the email, click 'Send' button (at the bottom of the page).
Optional Feature
This feature is disabled by default, to prevent it from being used as a tool for spamming or harassment. If you want to enable the e-mailing of pages, please ask your Confluence administrator.

Instructions for enabling this feature can be found here: Enabling the 'Mail Page' plugin

Screenshot: Emailing a Page

---

Confluence 3.0 Documentation

**Working with Page Families**

In Confluence, you can organise pages into a hierarchy of parent and child pages. Pages in such a hierarchy are called a page family.

Page families are a simple but effective way of categorising content. Confluence makes navigation of your site easier by providing links forward and backwards through the page hierarchy.

A parent page is at the topmost level of that hierarchy. Subpages are called child pages or children.

Read more about page families.

Things you can do with page families in Confluence:

- View a page's family
- View a page's location within a space
- View the hierarchy of all pages within a space
- View the children of a page
- Create a child page
- Move and re-order pages while editing a page or while viewing the space's Tree view.
- Order the pages in a page family alphabetically.
- Change the parent of a page

**Setting a Page Family to Alphabetical Order**

You can choose to display your Confluence pages in alphabetical or manual order. This page tells you how to set the pages within a family to alphabetical order.

On this page:

- About the Sequential Order of Pages
- Setting Page Order to Alphabetical
About the Sequential Order of Pages

Confluence allows you to present your pages in any order (sequence) you choose. The position of a page is reflected in the following places:

- The Tree tab on the space's 'Pages' view
- Space exports to PDF, HTML and XML
- The children of a page
- The pagetree macro
- The children macro

Alphabetical versus Manual Order

By default, Confluence will present your pages in alphabetical order. When you move a page to a different position, the order becomes manual for the affected page family.

When ordering pages alphabetically, Confluence actually applies a more sophisticated 'natural' order rather than a straight alphabetical order. The natural order handles numeric values correctly when doing string comparisons.

Now let's consider what happens when you add a page to a page family, by creating a new page or by moving or copying a page into the family:

- If the page family's order is alphabetical, the new page will appear in alphabetical order too.
- If the page family's order is manual, the new page will appear at the bottom of the list of pages in the family.

Changing the Page Order

You can change the order of the pages by moving pages within the page family — simply move the page to its new position while editing the page (see Moving a Page) or while viewing pages in the space's 'Tree' view (see Moving Pages within a Space).

You can also change the order of a page-family from manual to alphabetical (see the 'Setting Page Order to Alphabetical' section on Setting a Page Family to Alphabetical Order).

Setting Page Order to Alphabetical

If the pages in a page family have been ordered manually, you can reset the page order to alphabetical as described below.

A page family is a set of pages under a single parent page. In this section, when we say 'page family' we mean the immediate children of the parent page, not including the grand-children.

The screenshot below shows a family of pages in non-alphabetical order under the parent 'Sample Page'. Notice the A icon next to the parent 'Sample Page', giving you the option to order the pages alphabetically.

Screenshot: A family of pages in non-alphabetical order with 'Sort Alphabetically' icon

To set a page family to alphabetical order,
1. Go to the ‘Space Pages’ view for the current space. To do this:
   
   - Go to a page in the space, open the ‘Browse’ menu and select ‘Pages’. The ‘Space Pages’ view will open.
2. Go to the ‘Tree’ tab. The tree view will open, as shown in the screenshot above.
3. Expand the branches of the tree to find the page family you want.
4. If the page family is in non-alphabetical (manual) order, the ‘Sort Alphabetically’ icon \(\text{A}\) will appear next to the parent page as shown in the screenshot above. Click the icon.
5. The child pages will shuffle into alphabetical order and the icon will change to the ‘Undo Sorting’ icon \(\text{B}\) as shown in the screenshot below.

   (Note: Only the immediate children of the parent page will be affected. The grand-children will not be re-ordered. (If you want to re-order the grand-children, you need to click the ‘Sort Alphabetically’ icon next to the parent of those pages i.e. re-ordering happens for one node at a time.)

Screenshot: A family of pages in alphabetical order with ‘Undo Sorting’ icon

List Pages - Tree View

<table>
<thead>
<tr>
<th>Pages</th>
<th>News</th>
<th>Labels</th>
<th>Attachments</th>
<th>Bookmarks</th>
<th>Mail</th>
<th>Advanced</th>
<th>Space Admin</th>
</tr>
</thead>
</table>

You can move any page by dragging it to a new position in the tree.

- bookmarks
- Tree
- Navigation
- Home
- Sample Page
- Another Sample Page
- Yet Another Sample Page
- Something wicked this way comes
- Testing formats for Release Notes

If you change your mind, you can click the ‘Undo Sorting’ icon \(\text{B}\) to undo the alphabetical sort. This option is only available while you remain on the ‘Tree’ tab and provided that you have not performed any other action on the page family. Once you move away from this screen or do something else with the page family, such as moving children in or out of the family, the undo option is no longer available.

RELATED TOPICS

- Moving Pages within a Space
- Overview of Pages
- Overview of Page Families

Take me back to Confluence User Guide

**What is a Page Family?**

In Confluence, you can organise pages into a hierarchy of parent and child pages. Pages in such a hierarchy are called a **page family**.

Page families are a simple but effective way of categorising content. Confluence makes navigation of your site easier by providing links forward and backwards through the page hierarchy.

A parent page is at the toplevel of that hierarchy. Subpages are called child pages or children.

For example, in your organisation, you may have a space for ‘Fun’. Under this space you could have the following pages:

Screenshot: Page Family
The 'Recreation' page in this hierarchy is the parent page and the 'Sports', 'Music' and 'Up Coming Trips' pages are its child pages. Together, they comprise a page family.

Confluence will only allow you to create page families that are a simple tree. This means that you can create any number of nested families but a child can have only one parent.

RELATED TOPICS
Viewing a Page's Family
Viewing a Page's Location within a Space
Viewing Hierarchy of all Pages within a Space
Viewing the Children of a Page
Creating a Child Page
Moving a Page
Changing Parent of a Page
Working with Pages

Breadcrumbs
The breadcrumbs of a page display its location in the content hierarchy of Confluence. They trace the path from the current page back to the dashboard allowing easy navigation up and down the page hierarchy.

The breadcrumbs are displayed at the top of every page.

If you glance up at the breadcrumbs region of this page, above the title, you will see that it reads something like this:
Dashboard > Confluence > ... > Working with Page Families > Breadcrumbs

This means that this page is a child of 'Working with Page Families' which in turn is a part of the space 'Confluence'. The three dots '...' mean that there are other parent spaces between 'Confluence' and 'Working with Page Families'.

RELATED TOPICS
Working with Page Families
Browsing a space

Viewing a Page's Family
To view a page's family, go to the page and click on the 'Info' tab.

The page's parent and children, if any exist, are listed under the heading 'Hierarchy'.

If there are more than 10 children, only the first 10 will be shown by default. To view all the children, click 'Show all'. Click 'Hide all' to hide them again.

Screenshot: Viewing a page's family

<table>
<thead>
<tr>
<th>Hierarchy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Page</td>
</tr>
<tr>
<td>Home</td>
</tr>
<tr>
<td>Children (1)</td>
</tr>
<tr>
<td>Choose a Page</td>
</tr>
<tr>
<td>Move an attachment from one space to another</td>
</tr>
<tr>
<td>Move a family of pages from one space to another</td>
</tr>
<tr>
<td>Move a page from one space to another</td>
</tr>
<tr>
<td>Page Families</td>
</tr>
</tbody>
</table>
**Note**

If no parent is displayed for the page, either the page sits in the root directory of the space or its parent has been deleted.

**RELATED TOPICS**

- What is a Page Family?
- Viewing a Page's Location within a Space
- View Hierarchy of all Pages within a Space
- View the Children of a Page
- Create a Child page
- Change Parent of a Page
- Orphaned Pages

Take me back to Confluence User Guide

**Viewing Children of a Page**

Confluence displays the children of a page, if any exist, in one of two views configured globally by a site administrator:

**Show**: In this view, a list of the page's children is displayed as links at the bottom of the page. Clicking on a link will take you to the corresponding child page.

**Hide**: In this view, the list of the page's children is hidden when you view the page. A link at the bottom of the page tells you how many children the page has. Clicking on this link will display the list of its children.

**Screenshot : Show children**

**Children**  |  [Hide Children](#)  |  [View in hierarchy](#)  |  [Add child page](#)
---|---|---|---
[Changing the title of a link](#) (Confluence Documentation Research)
[Working with pages overview](#) (Confluence Documentation Research)
[Watching a page](#) (Confluence Documentation Research)
[Working with attachments overview](#) (Confluence Documentation Research)
[Keeping track of updates overview](#) (Confluence Documentation Research)
[Linking to attachments](#) (Confluence Documentation Research)
[Charles' Notes](#) (Confluence Documentation Research)
[Commenting on a page](#) (Confluence Documentation Research)

- to hide the list of children, click on 'Hide Children'.
- to view the location of the page in the space's hierarchy, click on 'View in hierarchy'
- to add a new child page, click on 'Add child page'

**Screenshot : Hide children**

- 0 children  |  [View in hierarchy](#)

**Note**

Confluence defaults the view to 'Show' or 'Hide' children based on what your preference was on your last visit to the site.

**RELATED TOPICS**

- Children Display Macro
- What is a Page Family?
- View Hierarchy of a Page
- Create a Child Page
- Working with Pages

Take me back to Confluence User Guide

**Viewing Hierarchy of Pages within a Space**

The 'Tree' view on the 'Browse Space' page displays the hierarchy of the pages within the space. It is a useful way of viewing all the parent-child relationships between pages in the space at a single glance.

**To see the tree view of pages within a space,**
1. Browse the space.

Go to the 'Browse Space' view. There are two ways to browse a space:

- Go to a page in the space and select the option you want from the 'Browse' menu. The corresponding tab of the 'Browse Space' view will open.
- Or click the icon next to the space name on the Dashboard. The 'Pages' tab of the 'Browse Space' view will open.

2. Go to the 'Pages' tab and open the 'Tree' view.
3. Click the '+' sign next to each page family to open the branches of the tree. This shows you the children of the page.

Screenshot: Tree View

 RELATED TOPICS
Moving Pages within a Space
Page Families
Viewing a Page's Location within a Space
Viewing the Children of a Page
Creating a Child Page
Changing the Parent of a Page
Working with Pages

Take me back to Confluence User Guide

Viewing a Page's Location within a Space

To view a page's location within the hierarchy of its space, click on the 'View in hierarchy' link at the bottom of the page.

This link is only displayed if the page has children.

Screenshot: Viewing a page's location in the space's hierarchy

RELATED TOPICS
Learn about Page Families
View a Page's Location within a Space
View the Children of a Page
Create a Child Page
Change Parent of a Page
Working with Pages

Take me back to Confluence User Guide

Changing Parent of a Page
In Confluence, you can organise pages into a hierarchy of parent and child pages. Pages in such a hierarchy are called a **page family**.

Page families are a simple but effective way of categorising content. Confluence makes navigation of your site easier by providing links forward and backwards through the page hierarchy.

A parent page is at the topmost level of that hierarchy. Subpages are called child pages or children.

To **change the parent of a page**, you can:

- Move the page to a new space, if that's what you want. You do this **while editing a page**.
- Move the page to a new position in the space's tree view. You do this **while editing a page or while viewing the space's Tree view**.

**RELATED TOPICS**

- Moving a Page
- Moving Pages within a Space
- Page Families
- Viewing a Page's Family
- Viewing a Page's Location within a Space
- Viewing Hierarchy of Pages within a Space
- Viewing Children of a Page
- Working with Pages

**Creating a Child Page**

To create a child page, you require 'Create Pages' permission which is assigned by a **space administrator** from the Space Administration screens. See **Space permissions** or contact a space administrator for more information.

Confluence allows you to create child pages in three different ways:

1. View an existing page. Go to the **Add** menu and select **Page**. By default, Confluence adds the new page as a child of the first.

2. Go to the **Add** menu and select **Page** from anywhere else in Confluence, then move the page to its required **Location** while still in edit mode — refer to the instructions on **moving a page**.

3. Click the **Add Child Page** link that is displayed when you choose to 'show' children of a page. This option is available only when the page already has children.

**RELATED TOPICS**

- Working with Page Families
- Viewing Children of a Page
- Changing Parent of a Page
- Working with Pages

**Viewing Page Information**

The **Information View** for a page shows you various bits of useful information about the page.

**To see the Information View for a page,**

1. View the page.
2. Go to the **Information** view for the page. To do this:
   - Go to a page in the space, open the **Tools** menu and select **Info**. The 'Information' view will open.

The 'Information View' displays the following information:

1. **Page Details**: Title, author, date of creation, date of last modification and the tiny link of the page.
2. **Page Hierarchy**: Parent-child relationships of the page.
3. **Page Permissions**: Displays page-level security restrictions that apply to the page (if present).
4. **Recent Changes**: Links to the five most recent versions of the page along with the name of the editor and the date of modification.
5. **View page history**: A link to the page history, which displays all the versions of the page in reverse chronological order and allows you to compare versions or to restore a previous version.
6. **Hot Referrers**: The external website pages which send the most viewers to the page.
Page History and Page Comparison Views

Confluence tracks histories of changes to pages by maintaining a version of the page each time it is modified. It is easy to view changes between different versions and to restore a previous version if required.

On this page:

- Accessing the Page History View
- Viewing Changes in a Page History
  - Viewing Recent Changes
  - Comparing Two Different Versions of a Page
- Page Comparison View
  - Key
  - Interactive views
- Other Page History View Features

Accessing the Page History View

To view the history of a page,

- Go to the page in the space, open the 'Tools' menu and select 'Page History'. The 'Page History' view will open. This will display a list of all versions of the page, ordered from newest at the top to oldest at the bottom of the list.
  - You can click a version number's link to view the contents of that page version. To get back to the page history view, click 'view page history'.

Screenshot: Page History View
If you are viewing a specific page version, the following functions are available:

- View the previous or next page versions by clicking ‘<< View previous version’ or ‘view next version >>’, respectively.
- Compare the differences between the version of the page you are viewing and the previous one by clicking ‘view differences’.

**Viewing Changes in a Page History**

The page history view and page information view allow you to view recent changes made to a page or to compare the differences between any two versions of a page.

**Viewing Recent Changes**

To view recent changes made to a page,

1. Click the ‘view change’ link at the top of the page below the page title. The page comparison view is displayed, showing text differences in wiki markup between the current and previous versions.
2. Go to the ‘Information’ view for the page. To do this:
   - Go to a page in the space, open the ‘Tools’ menu and select ‘Info’. The ‘Information’ view will open.
3. In the section titled ‘Recent Changes’ you will see the most recent versions of the page, along with the date of their modification and the name of the modifying author.
4. Click ‘view changes’ beside the desired version. The page comparison view is displayed, showing text differences in wiki markup between the selected and previous versions.

**Comparing Two Different Versions of a Page**

To compare two different versions of a page,

1. Access the page history view by:
   - Following the instructions at the top of this page.
   - Or
     a. Go to the ‘Information’ view for the page. To do this:
        - Go to a page in the space, open the ‘Tools’ menu and select ‘Info’. The ‘Information’ view will open.
        - Click the ‘View page history’ link in the ‘Recent Changes’ section. This will display a list of all previous versions of the page in reverse chronological order.
     b. Click the ‘view changes’ link in the ‘Recent Changes’ section. This will display a list of all previous versions of the page in reverse chronological order.
2. Select the versions you want to compare by selecting the check boxes beside them.
3. Click the ‘Compare selected versions’ button. The page comparison view is displayed, showing the text differences in Wiki markup between the selected versions.

**Page Comparison View**

The page comparison view shows the differences in wiki markup between selected page versions.

**Key**

On the page comparison view, the following key is used to depict wiki markup differences between the selected page versions:

- New lines or continuous sections of content are highlighted in green
- Removed lines or continuous sections of content are highlighted in red with a strike
- Whole lines containing only minor changes show the:
  - Additions highlighted in green
  - Deletions highlighted in red with a strike

**Screenshot: Comparing Changes**

```
This single line was removed.
This new line was added.
In this sentence, a single word was modified. changed.
```

**Interactive views**

When a page comparison view is first displayed, all large sections of unchanged text are hidden and reduced to an ellipsis ‘...’. Each one of these sections is ‘toggled’, such that:

- Clicking one of these ellipses reveals and expands the text it hides
Clicking an expanded section of text hides and contracts it back to an ellipsis.

You can also view page changes between versions which are adjacent to your current page comparison view. Click the link containing:

- '<<' to view the page comparison with the earlier adjacent version
- '>>' to view the page comparison with the more recent adjacent version.

For example, if your page comparison view is between v. 30 and v. 34 of a page, you can view changes between:

- v. 29 and v. 30 by clicking '<< Changes from 29 to 30'
- v. 34 and v. 35 by clicking 'Changes from 34 to 35 >>'

Screenshot: Interactive Page Comparison Views

**Other Page History View Features**

You can also use the page history view to:

- Restore an older version of a page
- View change comments

**RELATED TOPICS**

Viewing Page Information
Working with Pages
Tracking Updates

Take me back to the Confluence User Guide.

**Restoring an Older Version of a Page**

To restore an an older version of a page,
1. Go to the ‘Page History’ view. To do this:
   - Go to the page in the space, open the ‘Tools’ menu and select ‘Page History’. The ‘Page History’ view will open.
   - This will display a list of all versions of the page, ordered from newest at the top to oldest at the bottom of the list.
   - You can click a version number’s link to view the contents of that page version, or select the check boxes of two different versions and click ‘Compare selected versions’ to view the changes made between them. To get back to the page history view, click ‘View page history’.
2. Click ‘Restore this version’ beside the desired version.
3. Change the default comment if desired and click ‘OK’ to restore the desired version.

   If you are viewing a specific page version, you can restore that version of the page by clicking ‘restore this version’ on that page.

**Screenshot : Restoring an Older Version of a Page**

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Changed By</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRENT</td>
<td>Jul 07, 2009</td>
<td>Gilles Gaskell [Atlassian Technical Writer]</td>
<td></td>
</tr>
<tr>
<td>v. 41</td>
<td>Jun 18, 2007</td>
<td>Rosie Jameson [Atlassian Technical Writer]</td>
<td>Restore this version</td>
</tr>
<tr>
<td>v. 39</td>
<td>Jun 18, 2007</td>
<td>Rosie Jameson [Atlassian Technical Writer]</td>
<td>Restore this version</td>
</tr>
</tbody>
</table>

   All page history will be retained
   Restoring an older version creates a copy of that version. For example, in the above screenshot, if you selected v.39 and clicked ‘Restore this version’, a copy of v.39 would be created. This copy would be v.42 and would become the current version.

**RELATED TOPICS**

Page History and Page Comparison Views
Working with Pages

Take me back to the Confluence User Guide.

**Page Layout in View Mode**

Here’s what a typical Confluence page looks like in ‘view’ mode:
At the top of the page is the title, followed by the author information and the page content.

You can also see the menu options which allow you to edit the page, add content, and so on. Refer to Using the Confluence Screens for more details.

Each page can have labels (tags) associated with it. For more information, see Working with Labels Overview.

The page shown above has two comments at the bottom of the page. Depending upon permissions, Confluence users can add comments to a page. See Commenting on a Page.

**RELATED TOPICS**

Page Layout in Edit Mode (Wiki Markup)
Dashboard

Take me back to Confluence User Guide

**Page Layout in Edit Mode (Wiki Markup)**

Here's what the Confluence edit page looks like in Wiki Markup mode:
Another Sample Page

Start of sample page content.


End of sample page content.

Note
The options available to you in the 'Edit' mode of a page depend on the permissions granted to you by the space administrator.

For more information about editing a page, see Editing an Existing Page.

More Editing Options on the Page

Click the 'Edit' link next to the following options to open further editing functionality within the page.

Location

Click the 'Edit' link next to 'Location' to move the page to a different position within the space, as shown in this screenshot:
For more information, see Moving a Page.

Page Restrictions

Click the 'Edit' link next to 'Restrictions' to change the page-specific permissions, as shown in this screenshot:

For more information, see Setting a Page’s Restrictions.

Labels

Click the 'Edit' link next to 'Labels' to change the labels or tags belonging to the page, as shown in this screenshot:

For more information, see Working with Labels Overview.

RELATED TOPICS

Page Layout in View Mode
Dashboard

Take me back to Confluence User Guide

Moving a Page

This page tells you how to move a page which you are currently adding or editing. When you move a page, all attachments and comments on the page will be moved with the page. All child pages will move as well.
These instructions are for moving a single page

Using the method described below, you can only move the page which you are busy adding or editing. Alternatively, you can follow the instructions to move pages on the space’s Tree view.

Copying a page is different

If you want to copy rather than move a page, please refer to the instructions on copying a page.

To move a page, you need the following permissions:

- Edit permission on the page you are moving, and
- View permission on the page’s parent page. So if you are moving the page to a different parent, you need ‘View’ permission on the new parent.

On this page:

- Moving a Page
- About the Sequential Order of Pages
- Troubleshooting

Moving a Page

To move a page within the tree,

1. Make sure your page is in edit mode:
   - If you are creating a new page or copying a page, your page is already in edit mode.
   - If you want to move an existing page, view the page then click the ‘Edit’ button. Alternatively, you can go to the ‘Tools’ menu and select ‘Move’.
2. Click the ‘Edit’ button next to ‘Location’.
3. A tree view opens, highlighting the current page in its current position. See screenshot below. Holding down your left mouse button, click and drag the page up or down the tree.
4. Now you see one of the following:
   - A thin line between existing pages — This indicates the potential new position for the page. Release the mouse button when the page is where you want it.
   - A wide highlight over one or more existing pages — This indicates that you can drop the page into a page family. Release the mouse button to add the page to the family. The page will appear either in alphabetical sequence or as the last page in the family, depending on the family’s sequential order as described below.
5. Optional: Click the ‘Done’ button if you want to continue adding content to your page. This will close the tree view while leaving the page in edit mode.
6. Click the ‘Save’ button.
   - Note: The new position of the page is not saved until you click the ‘Save’ button.
   - To cancel the move while still holding down the mouse button, press the ‘Esc’ key on your keyboard.

To move a page to a different space,
1. Make sure your page is in edit mode:
   - If you are creating a new page, your page is already in edit mode.
   - If you want to move an existing page, view the page then click the ‘Edit’ button. Alternatively, you can go to the ‘Tools’ menu and select ‘Move’.
2. Click the ‘Edit’ button next to ‘Location’.
3. A tree view opens, with a ‘Space’ dropdown list. Select the space where you want to move the page.
4. The tree view is rebuilt, now showing the pages in the new space, and the current page is highlighted in its new position.
5. You can move the page to any position in the new space, as described above.
6. Optional: Click the ‘Done’ button if you want to continue adding content to your page. This will close the tree view while leaving the page in edit mode.
7. Click the ‘Save’ button.
   - Note: The new position of the page is not saved until you click the ‘Save’ button.
   - To cancel the move while still holding down the mouse button, press the ‘Esc’ key on your keyboard.
About the Sequential Order of Pages

Confluence allows you to present your pages in any order (sequence) you choose. The position of a page is reflected in the following places:

- The Tree tab on the space's 'Pages' view
- Space exports to PDF, HTML and XML
- The children of a page
- The pagetree macro
- The children macro

Alphabetical versus Manual Order

By default, Confluence will present your pages in alphabetical order. When you move a page to a different position, the order becomes manual for the affected page family.

When ordering pages alphabetically, Confluence actually applies a more sophisticated 'natural' order rather than a straight alphabetical order. The natural order handles numeric values correctly when doing string comparisons.

Now let's consider what happens when you add a page to a page family, by creating a new page or by moving or copying a page into the
Changing the Page Order

You can change the order of the pages by moving pages within the page family — simply move the page to its new position while editing the page (see Moving a Page) or while viewing pages in the space’s ‘Tree’ view (see Moving Pages within a Space).

You can also change the order of a page-family from manual to alphabetical (see the ‘Setting Page Order to Alphabetical’ section on Setting a Page Family to Alphabetical Order).

Troubleshooting

- Some people have experienced problems using the tree to move pages, after upgrading to Confluence 2.9. This is a known issue, that was fixed in Confluence 2.9.1. There is also a workaround for those who do not wish to upgrade to Confluence 2.9.1. Please see CONF-12911.

RELATED TOPICS

Sequential Order of Pages
Overview of Pages
Overview of Page Families
Moving Pages within a Space

Display an older version of a page

To point users to an outdated version of a page:

1. View the page and click the "view change" link displayed after the "last edited by" information.
2. In the box on the left-hand side of the "compared to", click on the "Version ## by Username" to show the full outdated version.
3. Click "<< View previous version" to scroll back through the outdated versions until you find the one you would like to link, and copy the URL from your address bar. This link is of the format http://confluence.atlassian.com/pages/viewpage.action?pageId=12345

These links inform the users that what they are viewing is out of date and provide a link to the current edition.

Linking pages

What would you like to do?

- Link to a page within a space
- Link to a page in another space
- Link to a webpage

RELATED TOPICS

Working with links
Working with pages

Recently Viewed Content

Confluence keeps track of pages you have recently visited throughout all your accessible spaces within a Confluence installation. This history is available from the Recently Viewed content view, which you can use to go back to Confluence pages you have recently visited.

To view the list of recently visited pages and go back to one of them,

1. Go to the ‘Recently Viewed’ content view. To do this:
   - Go to your name at the top of the page. (This is the ‘User’ menu. A dropdown list will appear when your cursor hovers over the ‘User’ menu.)
   - Select ‘Recently Viewed’ from the dropdown list. The ‘Recently Viewed’ content view will open.
2. Click the title of the page you wish to revisit.
Sequential Order of Pages

Confluence allows you to present your pages in any order (sequence) you choose. The position of a page is reflected in the following places:

- The Tree tab on the space's 'Pages' view
- Space exports to PDF, HTML and XML
- The children of a page
- The pagetree macro
- The children macro

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When ordering pages alphabetically, Confluence actually applies a more sophisticated 'natural' order rather than a straight alphabetical order. The natural order handles numeric values correctly when doing string comparisons.

Now let's consider what happens when you add a page to a page family, by creating a new page or by moving or copying a page into the family:

- If the page family's order is alphabetical, the new page will appear in alphabetical order too.
- If the page family's order is manual, the new page will appear at the bottom of the list of pages in the family.

Changing the Page Order

You can change the order of the pages by moving pages within the page family — simply move the page to its new position while editing the page (see Moving a Page) or while viewing pages in the space's 'Tree' view (see Moving Pages within a Space).

You can also change the order of a page-family from manual to alphabetical (see the 'Setting Page Order to Alphabetical' section on Setting a Page Family to Alphabetical Order).
Copying a Page

You can copy a page, to create a duplicate of the page content. You will need to rename the page, because a page name must be unique within a space.

You need ‘Create Pages’ permission, which is assigned by a space administrator from the Space Administration screens. See space permissions or contact a space administrator for more information.

To copy a page,

1. View the page you want to copy.
2. Go to the ‘Copy Page’ option. To do this:
   - Go to a page in the space, open the ‘Tools’ menu and select ‘Copy’.
     Confluence will open a copy of the page in edit mode. By default, Confluence will name the page ‘Copy of <<original page name>>’.
3. Rename the page and make any other changes required in the body of the page.
4. If you need to move the new page to a different space or a different parent, you can edit the ‘Location’. Refer to the instructions on moving a page.
5. Click ‘Save’.

More information about copying pages

- Copying a page will duplicate all of the original page’s attachments and labels, but will not copy comments from the original page.
- This method of copying a page does not copy the child pages. Please add your vote to issue CONF-2814 if you’d like to see this improvement.
- You can copy an entire space, including all pages in the space (parents and children) — refer to these instructions on copying a space.
- Consider using the WebDav plugin to move or copy a page hierarchy from one space to another, provided that none of the page names already exist in the target space.

Screenshot: Copying a page
Page Layout in Edit Mode (Rich Text)

Here's what the Confluence edit page looks like Rich Text mode:
Note

The options available to you in the ‘Edit’ mode of a page depend on the permissions granted to you by the space administrator.

**RELATED TOPICS**

- Page Layout in View Mode
- Dashboard

Take me back to Confluence User Guide

**Commenting on a Page**

A comment is a remark, question, or any other additional information you wish to add to a page pertaining to the topic the page covers.

Comments are a means by which a community of users can interact with each other on the site.

You can leave a comment on any page or news item in Confluence.

What would you like to do?

- View Comments
- Add Comments
- Link to Comments
**Adding a Comment**

You can leave a comment on any page or news item in Confluence.

To add a comment, you require 'Create Comments' permission which is assigned by a space administrator from the Space Administration screens. See Space permissions or contact a space administrator for more information.

You can either add a new comment or respond to a previous comment (only available in 'threaded' view).

Use Confluence markup or the Rich Text editor to write the comment.

**Profile photo appears in comments**

Your profile picture will appear next to each comment you've added. (This is true if your space uses the Confluence Default theme.)

To add a new comment,

1. Click the 'Add Comment' link near the bottom of the page.
2. The comments box opens up. Type in your text.
3. Click the 'Preview' tab to see a preview of your comment.
4. You can tick the box next to 'Watch this page' to receive email alerts whenever the page is commented or edited.
5. Click the 'Post' button to save your comment and display it on the page.

You can also respond to a comment.

This option is only available when the comments are in 'threaded' view.

To respond to a comment,

1. Click the 'Reply' link located below the text of a comment.
2. This will open up a new comment box. Type in your text.
3. You can tick the box next to 'Watch this page' to receive email alerts whenever the page is commented or edited.
4. Click 'Post'.
Deleting Comments

To delete a comment from a page, you require 'Remove Comments' permission which is assigned by a space administrator from the Space Administration screens. See Space permissions or contact a space administrator for more information.

Currently, it is not possible to delete all comments for a page simultaneously.

To delete a comment,

1. Go to the page that contains the comment.
2. Click on the 'Remove' link located at the bottom of the comments box. This is only displayed if you have permission to remove comments for this page.

WARNING

Deleted comments cannot be restored.
1. Go to the comment and click the 'Edit' button. You can use Confluence markup or the Rich Text editor to edit a comment. You can click preview to see how it will appear.
2. You can tick the box next to 'Watch this page' to receive email alerts whenever the page is commented or edited.
3. When you're finished, click 'Save'.

**Screenshot 1: Editing a comment**

**Related Topics**
- Commenting on a Page
- Viewing Comments
- Linking to Comments
- Deleting Comments

Take me back to Confluence User Guide

### Linking to Comments

⚠️ You need to edit in Wiki Markup mode to create a link to a comment.

To link to a comment from within Confluence,

1. Right-click on the 'Permalink' icon located at the lower right of the comments box. You will notice that the URL ends in a series of numbers.
2. Select the option to 'Copy the Link Location' the pop-up menu in your browser.
3. Paste the link into a temporary location and copy only the numerals at the very end of the link.
4. Click the 'Edit' tab of the page from which you want to link to the comment.
5. Paste the numerals between square brackets (as you would when you create any link in Confluence), and then include the dollar sign '$' in front of the numbers.

**Examples**

<table>
<thead>
<tr>
<th>Link to...</th>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comment in the same space</td>
<td>[$81167140]</td>
<td>Re: Linking to Comments (current space)</td>
</tr>
<tr>
<td>Comment in another space</td>
<td>[$81167141]</td>
<td>Re: Linking to Comments (CONF14 space)</td>
</tr>
</tbody>
</table>

Because you are linking to the actual database ID of the comment, you do not need to specify a space or a page id explicitly as that's calculated automatically from the database ID.
To link to a comment from outside Confluence,

1. Right-click on the 'Permalink' icon located at the lower right of the comments box.
2. Copy the link location of the comment. Alternately, click on 'Permalink' or the date and copy the URL displayed in the address bar of your browser.
3. Use this URL to link to the comment from your web page.

Screenshot: Permalink location

Comments (3)  Hide Comments  |  Collapse All  |  Add Comment

Edwin Dawson says: about 4 hours ago

This is the first comment on this page.

Edit  Remove  Reply

Screenshot: Permalink URL

[Image: http://example.atlassian.com/display/TEST/ExamplePage+with+Comments?focusedCommentId=698352299&comment=698352299]

RELATED TOPICS

Commenting on a Page
Adding a Comment
Working with Links

Take me back to Confluence User Guide

Sample Page

Start of sample page content


End of sample page content

child page

Viewing Comments

Comments on articles will appear by default in threaded form, below the page content. If the comment author is a Confluence user, a link appears to their profile page. The time of the comment’s last edit is also displayed – you can mouse-over the time to see the date and time it was posted.

Actions for Viewing Comments on a Page

Confluence allows you to 'collapse', 'expand', 'show' and 'hide' comments on a page.

- **Collapse All**
  - Comments are all shrunk to a single line, showing the first 60 characters. This allows easy browsing of many comments.
  - Clicking the top line of any comment will expand it, showing the links to 'Edit', 'Remove' or 'Reply'.

- **Expand All**
  - Comments are returned from the collapsed state to the usual threaded view, showing the full content of all comments inline.

- **Hide Comments**
  - The page’s comments will be hidden when you view the page. The 'Comments' line at the bottom of the page indicates...
whether the page currently has any comments.
- **Show Comments**
  - The page's comments will become visible below the page content.
  - Comment links at the bottom of each comment and the page allow you to post or manage comments.

### Setting the Appearance of Comments on Pages

Comments in Confluence are displayed in one of two views which is configured globally by a site administrator:

- **Threaded** - this view shows the comments in a hierarchy of responses. Each subsequent reply to a comment is indented to indicate the relationships between the comments.
- **Flat** - this view displays all the comments in one single list and does not indicate the relationships between comments.

⚠️ In Confluence 2.8.0, the collapsible comments are only available under the default Confluence theme.

**Screenshot: Threaded View**

<table>
<thead>
<tr>
<th>Comments (3)</th>
<th>Hide Comments</th>
<th>Collapse All</th>
<th>Add Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Edwin Dawson says:" /></td>
<td>This is the first comment on this page.</td>
<td>about 3 hours ago</td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Edwin Dawson says:" /></td>
<td>This is the second comment on the page.</td>
<td>about 3 hours ago</td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="rmk says:" /></td>
<td>This will be the third.</td>
<td>42 minutes ago</td>
<td></td>
</tr>
</tbody>
</table>

**Screenshot: Collapsed View**

<table>
<thead>
<tr>
<th>Comments (3)</th>
<th>Hide Comments</th>
<th>Expand All</th>
<th>Add Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Edwin Dawson says:" /></td>
<td>This is the first comment on this page.</td>
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</tr>
<tr>
<td><img src="image" alt="rmk says:" /></td>
<td>This will be the third.</td>
<td>42 minutes ago</td>
<td></td>
</tr>
</tbody>
</table>

**Screenshot: Hide View**

<table>
<thead>
<tr>
<th>Comments (3)</th>
<th>Show Comments</th>
<th>Add Comment</th>
</tr>
</thead>
</table>
Deleting a page

To delete a page, you require the 'Remove Pages' permission which is assigned by a space administrator from the Space Administration screens. See Space Permissions or contact a space administrator for more information.

To delete a page,

1. Go to the page.
2. Go to the 'Remove Page' option. To do this:
   - Go to a page in the space, open the 'Tools' menu and select 'Remove'. The 'Remove Page' screen opens. You will be prompted to confirm the action.
   - The 'Remove' menu option will only appear if you have permission to remove this page.

Handy Hint

- Deleted pages are stored in the trash and can be recovered by a space administrator.
- If the page you are deleting has any child pages they will be moved to the root of the space.

Purging Deleted Pages

When a user deletes a page from a Confluence space, the page is not permanently removed. Instead, Confluence places the deleted page into the 'Trash'. The page will remain in 'Trash' until a space administrator purges the page.

Purging deleted pages permanently clears them from 'Trash'.

You need to be a space administrator to purge deleted pages for a space.

To purge deleted pages,

1. Go to the 'Space Admin' tab of the Browse Space view. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Space Admin'. The 'Space Administration' view will open.
   - 'Space Admin' is only displayed if you are a space administrator.
2. Click 'Trash' in the left-hand navigation panel. A list of deleted pages and news items for the space is displayed.
3. Click the 'Purge' link beside a page or else click 'Purge All' to permanently clear all deleted pages and news items.
Restoring a Deleted Page

When you restore a page, you are retrieving it from 'Trash' to the root of the space where it existed before it was deleted.

You need to be a space administrator to restore deleted pages.

To restore a deleted page,

1. Go to the 'Space Admin' tab of the Browse Space view. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Space Admin'. The 'Space Administration' view will open.

   - 'Space Admin' is only displayed if you are a space administrator.

2. Click on 'Trash' from the left panel. A list of deleted pages and emails for the space is displayed.

3. Click on the 'Restore' link beside the page you want to restore.

   Handy Hint

   If a new page has already been created in that space with the same name as the deleted page, you will be given an option to rename the page before it is restored.

Related Topics

Deleting a page
Purging Deleted Pages

Writing Confluence pages

Confluence pages can be written in two ways:

- using a simple markup language called Wiki Markup

- or

- using the Rich Text editor: similar to editors available in standard text editing applications, the Rich Text editor allows you to enter content as you would in a Word document and apply formatting by clicking icons on a toolbar.

   NOTE

   While the Rich Text editor permits all formatting options possible with Wiki Markup, you will still need to use Wiki Markup for other more complex functions like macros.

   Help on the Wiki Markup language while you are writing a page

   A quick notation guide, Notation Help, appears beside the edit screen when you choose the Wiki Markup edit tab. You can then click the full notation guide link in the help window to view the full Notation Guide. This shows you the entire list of formatting and other complex operations that Confluence's notation permits, along with the markup detailing how to perform them.

Related Topics

Confluence Notation Guide Overview
Full Notation Guide
Rich Text Editor Overview
Working with Pages Overview
Creating a New Page
Editing an Existing Page
The text in the image presents information on renaming and editing pages in Confluence. Below is the plain text representation of the document:

## Renaming a Page

To rename an existing page, you require 'Edit Pages' permission which is assigned by a space administrator from the Space Administration screens. See Space permissions or contact a space administrator for more information.

### Links and other references

- Confluence will automatically change all internal links to point to your new page title.
- Explicit references to your page title in macros will not be changed. You need to change these manually.
- Links from external sites will be broken, unless they use the page's permanent URL.

### To rename a page,

1. Go to the 'Edit Page' option. To do this:
   - Go to a page in the space, and select the 'Edit' button. The page will open for editing.
2. This will bring up the 'Edit' screen, as shown below. The page title is at the top of the edit panel (see screenshot below).
3. Change the page title as desired.
4. Click 'Save'.

### RELATED TOPICS

- Linking Pages
- Editing an Existing Page
- Working with Pages Overview

## Editing an Existing Page

To edit an existing page, you require 'Edit Pages' permission which is assigned by a space administrator from the Space Administration screen. See Space permissions or contact a space administrator for more information.

### To edit an existing page,

1. Go to the 'Edit Page' option. To do this:
   - Go to a page in the space, and select the 'Edit' button. The page will open for editing.
   
   This is only displayed if you have permission to edit the page. This will bring up the edit screen in either the Wiki Markup or the Rich Text mode, whichever is your current default.

2. Make changes to the content or add new content as you would when you create a new page. Click the tabs to switch between 'Rich Text' and 'Wiki Markup' edit modes. You can also use a combination of the two editors. Confluence retains changes made in one mode when you switch to the other.

3. Click 'Preview' to view your changes. Click 'Save'.
Pages with large amounts of text content

One user reported having problems saving a page that contained approximately 700 kilobytes (700,000 characters) or more of text content. Refer to CONF-16467 for more information. Some browsers appear to be more susceptible to this issue than others. While it is highly unlikely that your page content will ever reach this size, if you work with large pages, structuring your content into separate pages will help to avoid this issue.

Screenshots: Editing Modes in Confluence

Click thumbnail to see a Confluence page in Wiki Markup mode

Click thumbnail to see a Confluence page in Rich Text mode

More complex editing

- You can also rename a page while in edit mode.
- To view changes between different versions of the page, view the history of the page.
- While the Rich Text editor includes almost all formatting options possible with Wiki markup, you will still need to use wiki markup for more complex functions like Enabling and Configuring Macros.

RELATED TOPICS

Rich Text Editor Overview
Creating a New Page
Deleting a page
Renaming a Page
Adding a Comment
Linking Pages
Working with Pages Overview
Working with Drafts
Can Users Edit Individual Sections Within a Page?
Editing a Confluence Page in an Office Application

Take me back to Confluence User Guide

Concurrent Editing and Merging Changes

Sometimes, two or more people may edit a page at the same time. When this happens, Confluence will do its best to ensure that nobody’s changes are lost.

How will I know if someone else is editing the same page as I am?

If another user is editing the same page as you, Confluence will display a message above your edit screen letting you know who the other user is and when the last edit was made.

Screenshot: Notification of Simultaneous Page Editing

⚠️ This page is being edited by Vidya Nagabushni [last edit less than a minute ago]

What happens if two of us are editing the same page and the other user saves before I do?

If someone else has saved the page before you, when you click ‘Save’, Confluence will check if there are any conflicts between your changes and theirs. If there are no conflicting changes, Confluence will merge both the edits successfully. If there are any conflicts, Confluence will display them for you and give you the option to either ‘Overwrite’ the other user’s changes, ‘Merge changes’ manually, or ‘Discard’
Example Scenario

For example, Alice and Bob both edit the same page at the same time.

If Alice clicks save before Bob, Bob is now effectively editing an out-of-date version of the page. When Bob clicks save, Confluence will examine his changes to see if any overlap with Alice’s. If the changes do not overlap (i.e. Alice and Bob edited different parts of the page), Bob’s changes will be merged with Alice’s automatically.

If Bob’s changes overlap with Alice’s, Confluence will display an error message to Bob showing where Alice has changed the page, and giving Bob the options to overwrite Alice’s changes with his own, to re-edit the document to incorporate Alice’s work, or to cancel his own changes entirely.

Making Rich Text or Wiki Markup Editing Default

You can default to either ‘Rich Text’ or ‘Wiki Markup’ modes of editing depending on your preference.

To default to Rich Text or Wiki markup modes of editing,

1. Go to the ‘Edit Page’ option. To do this:
   * Go to a page in the space, and select the ‘Edit’ button. The page will open for editing.
   This will open up the page in your current default mode.

2. If the current edit mode is not your default, you can make it your default by clicking the ‘Make Default’ link beside the tabs.

The Wiki Markup button cannot be hidden in the editor window.

Recording Change Comments

A change comment is a short description that details the changes made to a page during an edit. Change comments are a useful way of keeping track of the history of a page.

A ‘change comment’ is not the same as a comment added to a page. Refer to Commenting on a Page for information about that type of comment.

Cannot update or remove a change comment

Once a change comment has been added and the page has been saved, it is not possible to update or remove the change comment.

Entering a Change Comment
You can enter change comments in the field located below the edit screen:

**Screenshot: Entering change comments**

<table>
<thead>
<tr>
<th>Comment:</th>
<th>Added the cheese macro</th>
</tr>
</thead>
</table>

**Viewing a Change Comment**

Once a comment has been added, it becomes visible in the view mode of the page, so that users are aware of the most recent changes made to a page. If a comment has been recorded, you will see a 'show comment' link below the page title. Click the link to view the comment.

**Screenshot: The 'show comment' link**

Sample Page

Added by Administrator last edited by Sarah Maddox on Jun 13, 2008  (view change) show comment

The 'hide comment' link allows you to hide the comment again, so that it does not distract you from the content of the page.

**Screenshot: The 'hide comment' link**

Sample Page

Added by Administrator last edited by Sarah Maddox on Jun 13, 2008  (view change) hide comment

<table>
<thead>
<tr>
<th>Comment:</th>
<th>Added the cheese macro</th>
</tr>
</thead>
</table>

**Viewing a History of Change Comments**

The change comments for a page are recorded under the 'Recent Changes' section of the page's 'Info' view and in the page's 'History' view.

**Screenshot: History of change comments on Info view**

<table>
<thead>
<tr>
<th>Time</th>
<th>Editor</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun 13, 2008 12:21</td>
<td>Sarah Maddox</td>
<td>view changes</td>
</tr>
<tr>
<td>Added the cheese macro</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun 13, 2008 12:20</td>
<td>Sarah Maddox</td>
<td>view changes</td>
</tr>
<tr>
<td>Added link to the home page</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun 13, 2008 12:19</td>
<td>Sarah Maddox</td>
<td>view changes</td>
</tr>
</tbody>
</table>

**Screenshot: History of change comments on History view**

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Changed By</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRENT</td>
<td>Jun 13, 2008 12:21</td>
<td>Sarah Maddox</td>
<td></td>
</tr>
<tr>
<td>v.4</td>
<td>Jun 13, 2008 12:20</td>
<td>Sarah Maddox</td>
<td>Restore this version</td>
</tr>
<tr>
<td>v.3</td>
<td>Jun 13, 2008 12:19</td>
<td>Sarah Maddox</td>
<td>Restore this version</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

Viewing Page Information
Page History and Page Comparison Views

Take me back to Confluence User Guide
Creating a New Page

To create a page, you need the 'Create Pages' permission which is assigned by a space administrator from the Space Administration screens. See space permissions or contact a space administrator for more information.

You can also read more about writing pages.

There are few ways to add a new page, described in more detail below:

- Using the Add Page Option
- Using an Undefined Link to Create a Page
- Importing an Office Document into One or More Confluence Pages

Using the Add Page Option

To add a page,

1. Go to the 'Add Page' option. To do this:
   - Go to a page in the space, open the 'Add' menu and select 'Page'. The 'Add Page' screen opens.
   - Alternatively, you can go to the Dashboard and click the 'Add Page' link located beside each space. In this case, Confluence will add the page at the root of the space.
   - The 'Add Page' links are only displayed if you have permission to create pages for the space.
2. Enter a name (title) for your page.
3. By default, Confluence will add the page as a child of the page you are viewing. If you need to move the new page to a different space or a different parent, you can edit the 'Location'. Refer to the instructions on moving a page.
4. Enter content for your page using Wiki Markup or the Rich Text editor. See Writing Confluence pages.
5. Click 'Preview' if you want to see a preview of what the page will look like before saving it.
6. Click 'Save'.

Pages with large amounts of text content

One user reported having problems saving a page that contained approximately 700 kilobytes (700,000 characters) or more of text content. Refer to CONF-16467 for more information. Some browsers appear to be more susceptible to this issue than others. While it is highly unlikely that your page content will ever reach this size, if you work with large pages, structuring your content into separate pages will help to avoid this issue.

Using an Undefined Link to Create a Page

In Confluence, you can add a link which points to a page that you intend to create later. You might also use such a link to prompt other Confluence users to create pages. This type of link is called an undefined link.

To add an undefined link for later creation of a page,

1. Add a link, by typing a page name between angle brackets `[]` into your page body, specifying the name of a page which does not exist. See example below.
2. Save the page which contains the undefined link. Confluence indicates undefined links by colouring them red.
3. When you (or another user) click on the link, the 'Add Page' screen appears.
4. You can then follow the steps outlined above to enter the page name, add content and save the page.

Here is an example of an undefined link:

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Link to new page]</td>
<td>[Link to new page]</td>
</tr>
</tbody>
</table>

Screenshot: Adding a page
Page names

- Confluence does not accept the following characters in the title of a page:

  :,:/@,"\|^#;[\]{},<>

- A page must not start with the following characters:

  $,,~

- Page names must be unique within a space. We are aware that this is a limitation, and there's a feature request at CONF-5926. If you like, you can vote for this feature and add yourself as a watcher for future updates. You can also vote for the improvement request CONF-9458 to remove the restrictions on characters.

Importing an Office Document into One or More Confluence Pages

The Office Connector allows you to import a Word document into Confluence, optionally creating one or more new pages. See Importing an Office Document into Confluence.

RELATED TOPICS

Writing Confluence pages
Confluence Notation Guide Overview
Editing an Existing Page
Working with Page Families
Working with Drafts Overview

A draft is a snapshot version of a page which Confluence saves automatically at regular intervals while you are editing the page. Confluence saves these interim versions even if you do not save the page yourself. This is useful to prevent you losing work if your Confluence site experiences a problem.

At regular intervals, Confluence will automatically save the page you are editing and maintain a copy of it as a draft. If some system failure or error prevents you from saving your changes, you can retrieve the draft and continue working on it.

- Drafts are created while you are adding and editing a page or news item.
  
  Each time Confluence saves a draft of your page, it displays a message and the time of the last save. The message appears near the 'Save' button on the edit screen.

  *Screenshot: Message displaying the time when the draft was last saved*

  Draft saved at 11:37 AM  
  Save  
  Cancel

Whenever you edit a page and click one of the other page tabs, Confluence will automatically save a draft. When you click on the 'Edit' tab again, Confluence will let you know that a version of the page you are editing was not saved and will give you the option to resume editing.

- By default, Confluence saves a draft of your page once every thirty seconds. However, a Confluence administrator can configure how often drafts are saved.

- A draft is only available to you if you have been working on a page and have not yet saved your changes.

- You cannot create a draft explicitly.

- Drafts are listed in the 'Drafts' tab of your profile. Only you can view and edit your drafts.

- Once you have resumed editing a draft, or chosen to discard it, it is removed from this view.

RELATED TOPICS

Viewing Drafts  
Resuming the Editing of a Draft  
Configuring the Time Interval at which Drafts are Saved  
Concurrent Editing and Merging Changes

Resuming the Editing of a Draft

Confluence will save a draft of the page even if you haven't successfully added the page yet.

There are two ways to resume editing the page:

1. To see your drafts, go to your name at the top of the Confluence screen. Select 'Drafts' from the dropdown menu as shown here. A draft of the page will be listed with an option to 'Resume Editing'.

   RELATED TOPICS

   Working with Drafts Overview  
   Viewing Drafts

Confluence 3.0 Documentation
1. If you had not yet entered a page title, the draft will be listed without a title.

<table>
<thead>
<tr>
<th>Title</th>
<th>Last Saved Date</th>
<th>Operations</th>
</tr>
</thead>
</table>

2. If you do not resume editing the page as described above: When you next click 'Add Page' in that space, Confluence will ask you if you want to resume editing the page that wasn't saved. You can choose to resume editing. This will restore the page.

What happens if I am editing the draft of a page that has since been updated?

When this happens, Confluence will display a message informing you that you are editing an outdated page. If there are no conflicts between the two versions, Confluence will give you the option to 'Merge and Resume editing'.

If there are any conflicts, Confluence will give you the option to 'View the Conflict' or to 'Discard' your changes.

RELATED TOPICS

Working with Drafts Overview
Viewing Drafts

Viewing Drafts

To see your drafts, go to your name at the top of the Confluence screen. Select 'Drafts' from the dropdown menu.

Your drafts will appear, listed on the 'Drafts' tab in your user profile.
Introduction to Confluence's WebDAV Client Integration

WebDAV allows users to access Confluence content via a WebDAV client, such as 'My Network Places' in Microsoft Windows. Provided that the user has permission, they will be able to read and write to spaces, pages and attachments in Confluence. Users will be asked to log in and the standard Confluence content access permissions will apply to the equivalent content available through the WebDAV client.

By default, all WebDAV clients have permission to write to Confluence. Write permissions include the ability for a WebDAV client to create, edit, move or delete content associated with spaces, pages and attachments in a Confluence installation.

This page provides instructions on how you can set up a WebDAV client natively for a range of different operating systems. WebDAV clients typically appear as drives in your operating system's file browser application, such as 'Windows Explorer' in Microsoft Windows, 'Finder' in Mac OS or 'Konqueror' in Linux.

Setting Up a WebDAV Client in Microsoft Windows

This section covers the two methods for configuring a WebDAV client natively in Microsoft Windows:

- As a network drive
- As a web folder

If possible, use the network drive method as this will enable more comprehensive WebDAV client interaction with Confluence than that provided by a web folder. However, your Confluence instance must meet several environmental constraints if you use this method. If you cannot configure your instance to meet these requirements, then use the web folder method or third-party WebDAV client software.

Windows Network Drive

To map a Confluence WebDAV client network drive, your Confluence instance must be configured so that all of the following criteria is met:

- Uses HTTP (not HTTPS)
- Listens on port 80 (not 8080, which is the default port value used by the popular application server Apache Tomcat that runs many Confluence installations and Confluence Standalone distributions)
- Has no context root

The reason for these restrictions results from limitations in Microsoft's Mini-Redirector component. For more information, please refer to Microsoft's server discovery issue.
To map a Confluence WebDAV client network drive in Microsoft Windows,

1. In Windows XP, go to My Computer -> Tools menu -> Map Network Drive. In Windows Vista, go to Computer -> Map Network Drive. The 'Map Network Drive' dialog box opens.
2. Specify the following input to map the WebDAV client as a network drive:
   - Drive: <Any drive letter> (for example, Z:)
   - Folder: \\<hostname>\webdav (for example, \\localhost\webdav)
3. Click 'Finish'.

When prompted for login credentials, specify your Confluence username and password.

Screenshot: A Confluence WebDAV Client Network Drive in Windows XP

Windows Web Folder

To map a Confluence WebDAV client web folder in Windows XP,

1. Go to My Network Places and choose 'Add a network place'. The 'Add Network Place Wizard' opens.
2. Click 'Next', ensure that 'Choose another network location' is selected and then click 'Next' again.
3. In the 'Internet or network address' field, enter the URL for the Confluence WebDAV location (for example, http://<confluence server url>/confluence/plugins/servlet/confluence/default or http://<confluence server url>/plugins/servlet/confluence/default) and then click 'Next'.

When prompted for login credentials, specify your Confluence username and password.
4. Provide a meaningful name for your web folder and proceed with the remainder of the wizard.
5. Click 'Finish'.

Screenshot: A Confluence WebDAV Client Web Folder in Windows XP
To map a Confluence WebDAV client web folder in Windows Vista,

This procedure is very similar to the one for Windows XP. However, the following procedure includes the slight interface differences that are specific to Windows Vista.

1. Open the 'Map Network Drive' dialog box (refer to first step of the procedure above for mapping a network drive) and choose 'Connect to a Web site that you can use to store your documents and pictures'. The 'Add Network Location' wizard opens.
2. Click 'Next', ensure that 'Choose a custom network location' is selected and then click 'Next' again.
3. In the 'Internet or network address' field, enter the URL for the Confluence WebDAV location (for example, http://<confluence server url>/confluence/plugins/servlet/confluence/default) and then click 'Next'.
4. When prompted for login credentials, specify your Confluence username and password.
5. Provide a meaningful name for your network location/web folder and proceed with the remainder of the wizard.
6. Click 'Finish'.

Setting up a WebDAV client in Mac OS

To set up a Confluence WebDAV client in Mac OS,

1. Open the Finder.
2. From Go on the Finder Menu, select Connect to Server or press Command+K, which will also bring up this dialog box.
3. In the 'Server Address' field, enter the URL for the Confluence WebDAV location (for example, http://<confluence server url>/confluence/plugins/servlet/confluence/default or http://<confluence server url>/plugins/servlet/confluence/default) and click 'Connect'.
4. When prompted for login credentials, specify your Confluence username and password.

Screenshot: Setting Up a WebDAV Client in Mac OS
Setting up a WebDAV client in Linux or Unix

There are many tools and mechanisms available for configuring WebDAV clients in these operating systems. Therefore, we have chosen to demonstrate this using the file manager Konqueror, which is part of the Linux K Desktop Environment.

To set up a Confluence WebDAV client in Konqueror,

1. Open Konqueror.
2. In the 'Location' field, enter the URL for the Confluence WebDAV location using the 'protocol' webdavs (for example, webdavs://<confluence server url>/confluence/plugins/servlet/confluence/default or webdavs://<confluence server url>/plugins/servlet/confluence/default) and press Enter.

   If prompted for login credentials, specify your Confluence username and password. You should be able to click to load many, but not all files. In practice, you would normally save a modified file locally, then drag it to the Konqueror window to upload it to Confluence.

Dashboard

The Dashboard is the front page of a Confluence site. It provides an overview of the site, access to all spaces to which you have 'view' permission, and displays a list of the most recently updated content within them.

You can go to the Dashboard from any page on your site by clicking on the logo beside the page title or via the Breadcrumbs (the "You are here" path) located at the top of every page.

The dashboard is divided into five sections:

1. The Welcome Message for the site, which is configured from the Administration Console.
2. A list of the spaces within the site to which you have access, presented via convenient tabs: 'My', 'Team', 'New' or 'All' spaces. See Customising the Dashboard.
3. A list of the most Recently Updated documents on the site from the spaces listed. For example, if you click on the tab 'Team', the recently updated content from your team spaces will be listed here.
4. A list of your Favourite Pages. See Working with Favourites.
5. Useful links:

   a. Create a space — see Setting up a New Global Space
   b. — see Using the RSS Feed Builder
   c. — see Searching the People Directory

The Dashboard is the only place in Confluence from where you can:

- access all existing spaces on the site.
- add a new space to the site.

By default, the Dashboard is also the site homepage. However, you can set any other page in Confluence as the homepage via the Space Admin tab or your User Profile settings.
Customising the Dashboard

You can customise the Dashboard to provide access to the content on the site that is most relevant to you.

1. If you are using Confluence Hosted for Small Business, please note that some Confluence features are excluded from the Confluence Hosted for Small Business edition. See the feature comparisons on our website and in our documentation.

On this page:
- Displaying your Favourite Spaces
- Displaying your Team's Spaces
- Displaying your Favourite Pages
- Global Modifications

Displaying your Favourite Spaces

Mark some spaces as favourite. See Adding Favourites. Once you have marked your favourite spaces, you can click on the 'My' tab in the spaces section of the Dashboard to view a list of only your favourite spaces. The 'Recently updated' section in this view will also display content only from these spaces.

Displaying your Team's Spaces
Add a team label to the spaces important to your team. See **Adding a Team Label**. Team labels are used to group together related spaces. For example, you may want to group together all spaces relating to a project team.

Once you have added team labels, you can click on the 'Team' tab in the spaces section, select a team from the drop down menu, and have only the list of spaces pertaining to that team displayed. The 'Recently updated' section in this view will also display content only from these spaces.

The Dashboard remembers which one of the views, 'My', 'Team', 'All' or 'New' you were most recently viewing. So if you clicked the 'My' tab on this visit, next time around, as soon as you log in to Confluence, only the list of your favourite spaces and the recently modified content within them will be displayed to you.

**Displaying your Favourite Pages**

Mark your favourite pages. See **Adding Favourites**. Whichever view you are in, the Dashboard will display a list of your five most recently added favourite pages, so you can access those pages easily.

**Global Modifications**

If you are a Confluence Administrator, you can modify files to add content to the global dashboard. See **Customising the dashboard for Administrators**.

**RELATED TOPICS**

- Working with Labels Overview
- Working with Favourites Overview
- Configuring the Site Homepage

Take me back to **Confluence User Guide**
Using the Confluence Screens

This page gives a pictorial tour of the Confluence user interface.

On this page:

- Confluence Menus
- Confluence Screen Items

RELATED TOPICS

Confluence Menus

The image below gives an overview of the menus in Confluence.

<table>
<thead>
<tr>
<th>Menu or option</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse menu</td>
<td>The ‘Browse’ menu gives access to wiki content such as pages, news items, etc, and allows you to browse the People Directory. If you are an administrator, the space and site administration options appear here too.</td>
</tr>
<tr>
<td>User menu</td>
<td>After you have logged in, your name will appear at top right of the screen. The ‘User’ menu appears when your cursor hovers over your name. The menu allows you to log out, access your user profile or view your editing history, personal labels and page watches. You can also retrieve drafts of pages you are editing.</td>
</tr>
<tr>
<td>Search box</td>
<td>Type into this box and press ‘Enter’ to search.</td>
</tr>
<tr>
<td>Edit button</td>
<td>The ‘Edit’ button allows you to edit this page.</td>
</tr>
<tr>
<td>Add menu</td>
<td>The ‘Add’ menu allows you to add things to a page or space.</td>
</tr>
<tr>
<td>Tools menu</td>
<td>The ‘Tools’ menu contains miscellaneous actions relating to the page.</td>
</tr>
</tbody>
</table>

Confluence Screen Items

The image below gives an overview of the non-menu screen items in Confluence.
<table>
<thead>
<tr>
<th>Menu or option</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Byline</td>
<td>This shows the page author's name and the person who most recently edited the page.</td>
</tr>
<tr>
<td>Byline Icons</td>
<td>Two icons that indicate the presence of page restrictions and attachments to the page. A small padlock indicates page restrictions, while a paperclip indicates attachments. Both icons are clickable, leading to the 'Page Information' and 'Attachments' pages, respectively.</td>
</tr>
<tr>
<td>Labels</td>
<td>This line shows labels (or tags) attached to the current page.</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- Overview of Spaces
- Overview of Pages

Take me back to Confluence User Guide

**Confluence Icons**

Icons are used throughout Confluence to provide quick links and indicators. The most frequently used icons are:

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Folder icon" /></td>
<td>Indicates that restrictions apply to the current page. Click to see the restrictions and edit them.</td>
</tr>
<tr>
<td><img src="image" alt="Paper icon" /></td>
<td>Indicates that there are attachments to the current page. Click to open the 'Attachments View'.</td>
</tr>
<tr>
<td><img src="image" alt="People icon" /></td>
<td>Go to the people directory.</td>
</tr>
<tr>
<td><img src="image" alt="User profile icon" /></td>
<td>View a user profile.</td>
</tr>
<tr>
<td><img src="image" alt="Personal space icon" /></td>
<td>Go to a personal space.</td>
</tr>
<tr>
<td><img src="image" alt="Global space icon" /></td>
<td>Go to a global space.</td>
</tr>
<tr>
<td><img src="image" alt="Space homepage icon" /></td>
<td>View a space's homepage.</td>
</tr>
<tr>
<td><img src="image" alt="Page icon" /></td>
<td>View a page.</td>
</tr>
<tr>
<td><img src="image" alt="Add page icon" /></td>
<td>Add a page.</td>
</tr>
<tr>
<td><img src="image" alt="Child page icon" /></td>
<td>Add a child page to the current page.</td>
</tr>
<tr>
<td><img src="image" alt="News icon" /></td>
<td>View a piece of news.</td>
</tr>
</tbody>
</table>
Working with Spaces Overview

In Confluence, content is organised into spaces. There are two types of spaces:

- **Global** spaces are areas on your site into which you can group content items (pages, attachments, news, etc) based on any theme or topic of your choice. For example, you may want separate areas on your site for each team or project within your organisation. In Confluence, you can set up a different space for each team or project. You can build content for each of these spaces individually, decide who its users are, and even archive mail separately within each. There is no limit to the number of global spaces you can create within Confluence!
Personal spaces belong to particular users, and rather than being listed on the Dashboard (see below), are available from the People Directory. They can contain pages and news items, be searched and browsed. They can be kept private, or opened up so the whole world can view and edit them, just like global spaces.

Confluence treats each space as an independently managed wiki. This means that each space functions autonomously within your site.

Each space:

- Has its own pages, news items, comments, bookmarks (if the Bookmarks Plugin is enabled), RSS feeds and mail (mail applies to global spaces only).
- Has its own access control settings, so you can set different levels of access to different spaces.
- Can be separately exported to PDF, HTML or XML.

You can view all the global spaces within a site via the Dashboard. You also group global spaces together into 'Team Spaces' or 'My Spaces' to enable easy access to the content that is most relevant to you. See Customising the Dashboard.

Here is an example of how you could categorise information using spaces:

<table>
<thead>
<tr>
<th>Spaces:</th>
<th>My</th>
<th>Team</th>
<th>New (1)</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confluence (DOC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confluence 1.4 User Guide (CONF14)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confluence 2.0 User Guide (CONF20)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documentation Staging (DOCPRIV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documentation Staging 2 (DOCPRIV2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

'My' spaces are spaces that you have nominated as your favourites.

RELATED TOPICS

Setting up a New Global Space
Setting up your Personal Space
Viewing all Spaces
Browsing a space
Moving Pages within a Space
Moving Content from one Space to Another
Deleting a Space
Viewing Space Activity
Administering Spaces

Take me back to Confluence User Guide

Administering Spaces

To view the space administration menu,

Go to the ‘Space Admin’ tab of the Browse Space view. To do this:

- Go to a page in the space, open the ‘Browse’ menu and select ‘Space Admin’. The ‘Space Administration’ view will open.

‘Space Admin’ is only displayed if you are a space administrator.

All the options pertaining to the management of a space are listed in the left panel. Click on a link to take you to the corresponding screen.

To administer a personal space,

For personal spaces, the options available are divided into three categories under these headings:

1. Space Operations
   - Edit a space’s details
   - Edit space labels and team labels
To administer a global space,

Note that you need to be a space administrator to perform administrative functions relating to a global space.

For global spaces, the options available are divided into five categories under these headings:

1. **Space Operations**
   - Edit a space's details
   - Edit space labels and team labels
   - Remove a space
   - Purge or restore content from trash

2. **Security**
   - View or set space permissions
   - View restricted pages

3. **Mail**
   - Manage mail accounts
   - Import mail

4. **Look and Feel**
   - Apply a theme
   - Change the colour scheme
   - Edit the space's layouts
   - Change the space's logo

5. **Import**
   - Importing Pages from Disk

*Screenshot: Space Administration menu for a global space*
Browsing a space

The 'Browse Space' view gives you access to:

- Space-wide views of the content of the space — pages, news, labels, attachments, bookmarks and mail.
- Summary information about the space.
- Advanced space management tools.
- Tools to administer the space (for space administrators only).

The components of the Browse Space view are organised into a number of blue tabs.

Go to the 'Browse Space' view. There are two ways to browse a space:

- Go to a page in the space and select the option you want from the 'Browse' menu. The corresponding tab of the 'Browse Space' view will open.
- Or click the icon next to the space name on the Dashboard. The 'Pages' tab of the 'Browse Space' view will open.

Screenshot: Browsing a space — 'Advanced' tab
The tabs that are displayed will depend on your Confluence site configuration, the type of space you are viewing and the space permissions granted to you for the space.

### 1. Pages
- View pages alphabetically
- View recently updated content
- See tree view of pages
  
  More about Working with pages

### 2. Labels
- View labels

### 3. Attachments
- Find an attachment
- View details of an attachment
  
  More about Working with attachments

### 4. Mail
- View mail for this space
- Fetch new mail
- Delete mail
  
  More about Working with mail

### 5. Bookmarks
- Viewing Bookmarks
  
  More about working with bookmarks

### 6. News
- View news items for this space
  
  More about Working with news

### 7. Activity
- View space activity

### 8. Advanced
- View space details
- Edit space details
- Manage orphaned pages
- Manage undefined pages
- Adding a Template
- Manage page templates
- Export a space
- Subscribe to RSS feeds within Confluence
- Watch a space
- Add a space to your favourites

### 9. Space Administration
- Space Administration

**RELATED TOPICS**

- Working with Spaces Overview
- Setting up a New Global Space
- Viewing all Spaces
- Moving Pages within a Space
- Moving Content from one Space to Another
- Deleting a Space

Take me back to Confluence User Guide

### Editing Space Details

You need to be a space administrator to edit the details of a space.

To edit the details of a space,
1. Click the 'Browse Space' link for the space. This is located at the top of every page and beside the space link on the Dashboard.
2. Go to the 'Space Admin' tab and click 'Edit Space Details' in the left-hand panel. This brings up a new screen where you can:
   - Enter a different name for the space.
   - Enter or modify the space description.
   - Select a new home page for the space from the drop-down menu. This is the default page to which users are directed when they click the link to the space from the Dashboard.
   - If you set this field to blank (no selection) then the default home page will be the 'Pages' tab of the 'Browse Space' page.
3. Click 'Save'.

**Note**

You cannot edit the key or the creator's name.

**RELATED TOPICS**

Viewing Space Details
Browsing a space

Take me back to Confluence User Guide

**Managing Orphaned Pages**

An orphaned page is a page without any incoming links. What this means is that unless you know that this page exists, you are not likely to come across it in the space during the natural course of navigation.

When you are working in a large space with a number of pages, it is difficult to keep track of all of them. An orphaned page may be redundant or need to be referred to from another page. Confluence allows you to view all the orphaned pages in a space so you can "tidy up" the space by either deleting pages or by reorganising them.

To view the orphaned pages in a space,

1. Click on the 'Browse Space' link for the space. This is located at the top of every page and beside the space link on the dashboard.
2. Go to the 'Advanced' tab and click on 'Orphaned Pages' from the left panel.

You can:

- delete an orphaned page by clicking on the 'trash' icon beside it.
- give an orphaned page a parent — see Changing Parent of a Page.

**Screenshot : Managing Orphaned Pages**

**RELATED TOPICS**

Managing Undefined Pages
Browsing a space
Managing Undefined Pages

In Confluence, you can create links to pages that you intend to create later. This is a useful facility as it allows you to create links first and enter content for those pages later. These are 'undefined links' and are indicated with this sign to remind you that those pages need to be created.

For example, [Link to new page]

Because you may be working with a large number of pages each with a number of links, this view gives a consolidated report of all the undefined pages so you can manage your space better.

To view the undefined links in a space,

1. Click on the 'Browse Space' link for the space.
2. Go to the 'Advanced' tab and click on 'Undefined Links' from the left panel. This will display a list of all the undefined pages in the space.
   
   Click on the 'Add Page' icon beside a page to add content.

RELATED TOPICS

Managing Orphaned Pages
Browsing a space

Tree View of Pages

The tree view displays the parent-child relationships of the pages in the space.

Learn about page families in Confluence.

To see the tree view of pages within a space,

1. Browse the space.
   Go to the 'Browse Space' view. There are two ways to browse a space:
   - Go to a page in the space and select the option you want from the 'Browse' menu. The corresponding tab of the 'Browse Space' view will open.
   - Or click the icon next to the space name on the Dashboard. The 'Pages' tab of the 'Browse Space' view will open.

2. Go to the 'Pages' tab and open the 'Tree' view.

3. A tree view opens. Click the '+' sign next to each page family to open the branches of the tree.

Screenshot: Tree View of pages

RELATED TOPICS

Page Families
Viewing a Page's Location within a Space
Viewing Children of a Page
Working with Pages

Take me back to Confluence User Guide
Viewing Pages Alphabetically

Use this view when you are looking for a specific page in a space and you know its title.

To view the pages in your space alphabetically,

1. Click on the 'Browse Space' link for the space.
2. Go to the 'Pages' tab and click on 'Alphabetical View'.
3. Click on a letter to display all the pages beginning with that letter. Clicking on a page link will take you to that page.

Handy Hint

If you know the title of a page, you might find it faster using the Quick Search.

RELATED TOPICS

View Recently Updated pages
See Tree View
Browsing a space

Take me back to Confluence User Guide

Viewing Recently Updated Content

The 'Recently Updated' view is a useful way of keeping track of the changes being made in a space. It displays links to the most recently added or modified content within the space including pages, news items, mail messages and comments.

To view the recently updated content in a space,

1. Click on the 'Browse Space' link for the space. This is located at the top of every page and beside the space link on the dashboard.
2. Go to the 'Pages' tab and click on the link 'Recently Updated'. A list of the most recently added or modified content in the space is displayed. Clicking on a link will open up the corresponding document.

RELATED TOPICS

Recently Updated Macro
View Pages Alphabetically
See Tree View of Pages
Browsing a space
Viewing Space Activity

Take me back to Confluence User Guide

Viewing Space Details

To view a space's details,

1. Click the 'Browse Space' link for the space. This is located at the top of every page and beside the space link on the dashboard.
2. Go to the 'Advanced' tab and click 'Space details' in the left-hand panel.

The following details are displayed:

- The Name of the space.
- The Key used to refer to the space. This key is a shorthand name for the space that is used for web urls, reports, and when linking content between spaces. Note that personal space keys always contain a '~', whereas global space keys never do.
- Any Labels defined for this space. Optional.
- The Homepage of the space. Optional. This is the default page to which users are directed when they click on the link to the space from the dashboard. If this field is empty (not displayed) then the default home page is the 'Pages' tab of the 'Browse Space' page.
- The Creator of the space.
- The Space Description: Optional. This is a short description of the space used to provide users with an idea of the space's contents.

Here is an example:

Screenshot : Space Details
Converting a Global Space to a Personal Space

Generally, the easiest way to create your personal space is to follow the instructions described in Setting up your Personal Space. However, sometimes you may need to convert an existing global space into a personal space, particularly if you used Confluence before the introduction of personal spaces in version 2.2.

To convert a global space to a personal space, you require the following permissions:

- ‘Personal Space’ permission, which is assigned by a Confluence administrator from the Administration Console. See Security or contact a Confluence administrator for more information.
- ‘Space Admin’ permission, which is assigned by a space administrator.

To convert a global space to a personal space,

1. Go to the global space.
2. Go to the ‘Space Admin’ tab of the Browse Space view. To do this:
   - Go to a page in the space, open the ‘Browse’ menu and select ‘Space Admin’. The ‘Space Administration’ view will open.
   - ‘Space Admin’ is only displayed if you are a space administrator.
3. Click the ‘Edit Space Details’ link in the left panel.
4. In the ‘Convert to Personal Space’ section, in the lower half of the screen:
   - Choose whether to Update Links to pages in this space (recommended).
   - Choose the User whose personal space this global space will become.
   - Click the ‘Convert Space’ button.

Screenshot: Converting a Global Space to a Personal Space

Convert to Personal Space

Convert this space into a Personal Space for yourself or another user. Note that every user can only have one personal space. If you select a user, this space will be converted into your own Personal Space.

You can choose to update all existing links to pages in this space. This operation might take a few minutes to complete.

Update Links:  
Choose Owner:  
Add
Convert Space
Note that the ability to archive mail and import pages from disk applies only to global spaces, so the 'Mail' and 'Import' sections in the above screenshot do not appear in the 'Space Admin' tab for personal spaces. Please see Working with Spaces Overview for information about the differences between global spaces and personal spaces.

**RELATED TOPICS**
- Working with Spaces Overview
- Setting up your Personal Space
- Uploading a Profile Picture

Take me back to Confluence User Guide

### Deleting a Space

Deleting a space permanently removes the space and all of its contents.

⚠️ **Warning**

Use caution while deleting a space, and always create an XML Space Backup before proceeding. Once deleted, there is no way to restore a space unless you have made an XML Space Backup.

You need to be a space administrator to delete a space.

**To delete a space,**

1. Go to the 'Space Admin' tab of the Browse Space view. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Space Admin'. The 'Space Administration' view will open.
   - 'Space Admin' is only displayed if you are a space administrator.
2. Click on the 'Remove Space' link in the left panel under the heading 'Space Operations'.
3. Click 'OK' when the confirmation screen is brought up.

**RELATED LINKS**
- Working with spaces
- Setting up a New Global Space
- Viewing all Spaces
- Browsing a space
- Moving Content from one Space to Another
- Copying or Renaming a Space

Take me back to Confluence User Guide

### Guidelines For Partitioning Content Into Spaces & Pages

Brief guidelines for grouping content into the Confluence space and page format used by Confluence.

**Partitioning Guidelines**

To ensure maintainable and logical spaces, content should be broken into spaces by:

1. Evaluating permissions across the wiki content. If members require conflicting access, for example user 1 must access content on topics A and B, while user 2 must access content for topics B and C, then the topics must be separated into three spaces.
2. Grouping content by topic, project or team.

For semi-static content, a space for each topic is fine. If there is a substantial project-related content that must be exclusive to different groups, you should use separate spaces.

**Spaces & Pages Information**
Useful notes about spaces and pages:

1. Spaces cannot be nested
2. Page permissions can prevent users who can access the space from accessing that page
3. Page permissions alone cannot keep the existence of a page secret. The page should be in a restricted space instead
4. Pages can be easily moved between spaces

Moving Content from one Space to Another

While each space in Confluence functions independently, Confluence is flexible enough to let you move content easily between spaces.

What would you like to do?

Move a Page from one Space to Another
Move a Family of Pages from one Space to Another
Move an Attachment

Related Links

Working with Spaces
Browsing a space

Take me back to Confluence User Guide

Moving a family of pages from one space to another

To move page families, you require 'Create Pages' permission for each page in that family. Space Permissions are assigned by a space administrator from the Space Administration screens.

Confluence allows you to move pages around by dragging and dropping them on a tree view. When you move a parent page, all its children are automatically moved too.

To move an entire family of pages, you can:

- Move the page family to a new space, if that's what you want. You do this while editing a page.
- Move the page family to a new position in the space's tree view. You do this while editing a page or while viewing the space's Tree view.

Related Topics

Moving a Page from one Space to Another
Moving an Attachment

Take me back to Confluence User Guide

Moving a Page from one Space to Another

You can easily move pages from one space to another within Confluence.

To move a page, you require 'Create Pages' permission which is assigned by a space administrator from the Space Administration screens. See Space permissions or contact a space administrator for more information.

To move a page to a new space, you need to edit the page's location — refer to the instructions on moving a page.

Handy Hint

Any links to the page from the current space will automatically be renamed to point to the page in the new space.

Related Topics

Moving a Page
Moving Pages within a Space
Moving a family of pages from one space to another
Moving an Attachment

Take me back to the Confluence User Guide.

Moving Pages within a Space

This page tells you how to move a page using a space's 'Tree' view. This method allows you to move a page, or a family of pages, within a space. Alternatively, you can move a page to a new position or to a new space while in edit mode — see Moving a Page.
To move a page, you need the following permissions:

- Edit permission on the page you are moving, and
- View permission on the page's parent page. So if you are moving the page to a different parent, you need 'View' permission on the new parent.

When you move a page, its children will move as well.

### On this page:

- About the Sequential Order of Pages
- Moving a Page
- Setting Page Order to Alphabetical
- Troubleshooting

### About the Sequential Order of Pages

Confluence allows you to present your pages in any order (sequence) you choose. The position of a page is reflected in the following places:

- The Tree tab on the space's 'Pages' view
- Space exports to PDF, HTML and XML
- The children of a page
- The pagetree macro
- The children macro

### Alphabetical versus Manual Order

By default, Confluence will present your pages in alphabetical order. When you move a page to a different position, the order becomes manual for the affected page family.

When ordering pages alphabetically, Confluence actually applies a more sophisticated 'natural' order rather than a straight alphabetical order. The natural order handles numeric values correctly when doing string comparisons.

Now let's consider what happens when you add a page to a page family, by creating a new page or by moving or copying a page into the family:

- If the page family's order is alphabetical, the new page will appear in alphabetical order too.
- If the page family's order is manual, the new page will appear at the bottom of the list of pages in the family.

### Changing the Page Order

You can change the order of the pages by moving pages within the page family — simply move the page to its new position while editing the page (see Moving a Page) or while viewing pages in the space's 'Tree' view (see Moving Pages within a Space).

You can also change the order of a page-family from manual to alphabetical (see the 'Setting Page Order to Alphabetical' section on Setting a Page Family to Alphabetical Order).

### Moving a Page

To move a page within the space's 'Tree' view,

1. Go to the 'Space Pages' view for the current space. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Pages'. The 'Space Pages' view will open.
2. Go to the 'Tree' tab.
3. A tree view opens. Find the page you want to move.
   - Hint: Click the '+' sign next to each page family to open the branches of the tree.
4. Holding down your left mouse button, click and drag the page up or down the tree. See screenshot below.
5. While dragging the page, you see one of the following:
   - A thin line between existing pages — This indicates the potential new position for the page. Release the mouse button when the page is where you want it.
   - A wide highlight over one or more existing pages — This indicates that you can drop the page into a page family. Release the mouse button to add the page to the family. The page will appear either in alphabetical sequence or as the last page in the family, depending on the family's sequential order as described below.
   - Note: The new position of the page is saved as soon as you release the mouse button.
   - To cancel the move while still holding down the mouse button, press the 'Esc' key on your keyboard.
Setting Page Order to Alphabetical

If the pages in a page family have been ordered manually, you can reset the page order to alphabetical as described below.

A page family is a set of pages under a single parent page. In this section, when we say 'page family' we mean the immediate children of the parent page, not including the grand-children.

The screenshot below shows a family of pages in non-alphabetical order under the parent 'Sample Page'. Notice the icon next to the parent 'Sample Page', giving you the option to order the pages alphabetically.

To set a page family to alphabetical order,
1. Go to the 'Space Pages' view for the current space. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Pages'. The 'Space Pages' view will open.
2. Go to the 'Tree' tab. The tree view will open, as shown in the screenshot above.
3. Expand the branches of the tree to find the page family you want.
4. If the page family is in non-alphabetical (manual) order, the 'Sort Alphabetically' icon  will appear next to the parent page as shown in the screenshot above. Click the icon.
5. The child pages will shuffle into alphabetical order and the icon will change to the 'Undo Sorting' icon  as shown in the screenshot below. Only the immediate children of the parent page will be affected. The grand-children will not be re-ordered. (If you want to re-order the grand-children, you need to click the 'Sort Alphabetically' icon next to the parent of those pages i.e. re-ordering happens for one node at a time.)

If you change your mind, you can click the 'Undo Sorting' icon  to undo the alphabetical sort. This option is only available while you remain on the 'Tree' tab and provided that you have not performed any other action on the page family. Once you move away from this screen or do something else with the page family, such as moving children in or out of the family, the undo option is no longer available.

**Troubleshooting**

- Some people have experienced problems using the tree to move pages, after upgrading to Confluence 2.9. This is a known issue, that was fixed in Confluence 2.9.1. There is also a workaround for those who do not wish to upgrade to Confluence 2.9.1. Please see CONF-12911.

**RELATED TOPICS**

- Moving a Page
- Overview of Pages
- Overview of Page Families

Take me back to Confluence User Guide

**Setting up a New Global Space**

To set up a new global space, you require 'Create Space' permission which is assigned by a Confluence administrator from the Administration Console. See Security or contact a Confluence administrator for more information.

To create a new global space,
1. Click the link ‘Create a Space’ located below the list of spaces on the Dashboard.
2. The ‘Create Space’ screen appears, as shown below. Enter the following information about your new space:
   - **Space Name**: Type a name for the space. Note that space names do not have to be unique.
   - **Space Key**: Type a simple key to identify your space (A-Z, a-z, 0-9). This key is a shorthand name for the space, used when linking content between spaces, for web URLs and for reports. The space key must be unique within the entire Confluence site.
   - **Permissions**: Leave the default settings or choose to allow only yourself to view or contribute content to this space. A space administrator can change the permissions at any time after creating the space.
   - **Theme**: Select a theme for your space. A space administrator can change the theme later too.
3. Click the ‘OK’ button. (It's at the bottom of the screen, not shown on the screenshot below.)
4. The ‘Home’ page for your new space is displayed.
   - **Note**: Your home page will automatically contain any default space content as defined by your Confluence administrator.
5. Click ‘OK’.

Next, you can start adding pages to your space.

**Screenshot: Creating a space**

- **Enter a space name**
- **Enter a space key**
- **Who can use this space?**
  - Choose who can view and comment on content:
    - Me
    - Registered users - anyone logged into Confluence
  - Choose who can contribute (create and edit) content:
    - Me
    - Registered users - anyone logged into Confluence

**Choose Theme**

To change the theme of this space, select one below:

- **Default Theme**
  - Use the globally configured look and feel. You can customise colour schemes and layouts manually.
- **Confluence Classic Theme**
  - Confluence Classic Theme (with old typography)

**RELATED TOPICS**
Setting up your Personal Space

Your personal space is a place where you can publish your own pages and news items. Once you have set up your personal space, Confluence users can reach it by clicking your name in the People Directory.

Creating your personal space

To set up your personal space, you require the 'Personal Space' permission which is assigned by a Confluence administrator from the Administration Console. Refer to the Security Overview and Global Permissions Overview topics or contact a Confluence administrator for more information.

To create your personal space,
1. Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)

2. Select 'Create Personal Space' from the dropdown list. The 'Create Personal Space' view will open.

3. Enter a few details about your space:
   - Choose who can view content.
   - Choose who can contribute (create and edit) content.
   - Choose the Theme (look and feel) for your personal space.

4. Click the 'Create' button.

5. The 'Home' page for your new space is displayed.
   Note: Your home page will automatically contain any default space content as defined by your Confluence administrator.
Adding and changing content in your space

Now you can start adding pages to your personal space. You may also want to upload your photo.

Granting access to your space

When you created the space (see above), you made some preliminary decisions about who can view and contribute content to your space. You can change the permissions on your space at any time.

**RELATED TOPICS**

Working with Spaces Overview
Converting a Global Space to a Personal Space
User Profile Overview
Linking to Personal Spaces and User Profiles

Take me back to Confluence User Guide

**Viewing all Spaces**

Once you login, the list of spaces you have permission to view is displayed on your Dashboard under the spaces section.

The list of spaces is displayed via meaningful tabs:

- **My Spaces**: Spaces you marked as your favourites.
- **Team Spaces**: Spaces pertaining to a team grouped together using team labels.
- **New**: New spaces added to the site in the last seven days.
- **All**: All the spaces on the site.

**Screenshot: Viewing Spaces**

<table>
<thead>
<tr>
<th>Spaces</th>
<th>My</th>
<th>Team</th>
<th>New (1)</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confluence  (DOC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confluence 1.4 User Guide (CONF14)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confluence 2.0 User Guide (CONF20)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documentation Staging (DOCPRIV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documentation Staging 2 (DOCPRIV2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Additionally, a list of personal spaces is available via the People Directory icon on the Dashboard:

Go to the Dashboard from any page on your site simply by clicking the logo beside the page title or via the Breadcrumbs (the "you are here" path) located at the top of every page.

If you do not login, you will be treated as an 'anonymous user' and only those spaces to which an anonymous user has 'View' permission will be displayed on the Dashboard.

Permission to a space is granted by a space administrator. See Space permissions for more information.

**Handy Hint**

Use the Spaces List Macro to view the list of spaces from any other page in Confluence.
Viewing Space Activity

The Confluence Usage Tracking Plugin, which governs the Activity tab, is known to have performance issues on large installations. In Confluence 3.0, this plugin is disabled by default.

In Confluence version 2.3 and later, statistics on each space's activity are available. These include:

- How many pages and news posts have been viewed, added, edited
- Which content is the most popular (i.e. most frequently viewed)
- Which content is the most active (i.e. most frequently edited)
- Which people are the most active contributors/editors of content

To view a space's activity,

1. Go to the 'Browse Space' view. There are two ways to browse a space:
   - Go to a page in the space and select the option you want from the 'Browse' menu. The corresponding tab of the 'Browse Space' view will open.
   - Or click the icon next to the space name on the Dashboard. The 'Pages' tab of the 'Browse Space' view will open.
2. Go to the 'Activity' tab.

The number of pages and news posts that have been viewed, added and edited will be displayed graphically, showing trends over a period of time, e.g.:

*Screenshot: Number of viewed pages and news posts in a week*
Activity for week starting 31 December 2006

The top 10 most popular and most active pages and/or news posts will be listed, with a link to each, e.g.:

**Most popular content (Views)**

1. ![Confluence Documentation Home](link) (2262)
2. ![Set JAVA_HOME variable in Windows](link) (1180)
3. ![Confluence Installation Guide](link) (687)
4. ![Remote API Specification](link) (467)
5. ![User Macros](link) (436)
6. ![Installing Confluence Standalone](link) (385)
7. ![JIRA Issues Macro](link) (370)
8. ![Administrators Guide](link) (353)
9. ![Dynamic Tasklist Macro](link) (335)
10. ![Frequently Asked Questions](link) (320)

If your Confluence site is clustered, Space Activity will not be available.

**RELATED TOPICS**

- Browsing a space
- Viewing Space Details
- Page History and Page Comparison Views
- Tracking Updates Overview
- Finding Unused Spaces

Take me back to Confluence User Guide
Working with Attachments Overview

An attachment is any file that is included with your page. Images, Word documents, presentations, PDFs, multimedia and sound files are some examples of attachments.

Attachments are useful when you want to share information that exists in another file format.

In Confluence you can attach files to any page.

When a page you are viewing contains attachments, a small paperclip icon like this: [image] appears next to the page byline. Clicking the paperclip will take you to the ‘Attachments View’, where the full list of attachments is displayed.

Here is a summary of how to attachments work in Confluence.

- Go to the ‘Attachments’ view for the page. To do this:
  - Go to a page in the space, open the ‘Tools’ menu and select ‘Attachments’. The ‘Attachments’ view will open.
  - From this view, you can start attaching files to the page.
  - If you attach a file with the same name as an existing attachment, Confluence will create a new version of the existing attachment.
  - Once you have attached a file, you can then provide a link to it from a Confluence page.
  - When a user clicks on the link, the attachment will open, so long as the user has the software application needed to open the attachment.
  - In the case of image attachments, Confluence allows you to display attached images on the page.
  - When the attachment is an Office document, you will see a ‘View’ link next to the attachment on the Attachments view. Click the ‘View’ link to view the content of the Office document within Confluence. If you have an Office application installed, you will also be able to launch your Office editor from within Confluence. See Displaying an Office Document in Confluence and Working with the Office Connector.

RELATED TOPICS

- Attaching Files to a Page
- Attachment Versions
- Deleting an Attachment
- Displaying List of Attachments in a Page
- Downloading Attachments
- Editing Attachment Details
- Embedding Multimedia Content
- Embedding PowerPoint Presentations in a Page
- Finding an Attachment
- Linking to Attachments
- Moving an Attachment
- Viewing Attachment Details
- Moving an Attachment
- Deleting an Attachment
- Displaying an Image
- Configuring Attachment Size
- Configuring your Attachment Storage
- Working with the Office Connector

Take me back to Confluence User Guide.

Attaching Files to a Page

An attachment is any file that is included with your page. Images, word documents, presentations, PDFs, multimedia and sound files are some examples of attachments. Attachments are useful when you want to share information that exists in another file format. Read more in the Attachment Overview.

When you attach a file to a page, Confluence makes a copy of the file and stores it on the server. File attachments in Confluence are contained in the ‘Attachments’ view of a page.

To attach a file, you need the 'Create Attachments' permission which is assigned by a space administrator from the Space Administration screens. See Space Permissions or contact a space administrator for more information.

Tip: Attaching and linking files via the 'Insert Link' icon

This page tells you how to use the ‘Attachments’ view to attach a file to a page. You can also attach files via the ‘Insert Link’ icon as described in Linking to an Attachment.
Handy Hint

Changes you make to the original file after you've attached it don't affect the copy in Confluence. To update the content of the file, you will need to upload a new version.

Attaching files

To attach a file to a page,

Go to the 'Attachments' view for the page. To do this:

1. Go to a page in the space, open the 'Tools' menu and select 'Attachments'. The 'Attachments' view will open.
2. Click the 'Browse' button.
3. Browse through your files and select the file you'd like to attach.
4. Enter a description for the attachment in the 'Comment' text field (optional).
5. Click 'Attach more files' if required.

Attachment Versions

If you upload a file with the same name as an existing attachment, Confluence will rename the old file and maintain a version of it on the server. Read more about Attachment Versions and Viewing Attachment Details.

Attachment Information Icon

When a page you are viewing contains attachments, a small paperclip icon like this: ![Paperclip Icon] appears next to the page byline. Clicking the paperclip will take you to the 'Attachments View', where the full list of attachments is displayed.

RELATED TOPICS

Working with Attachments
Displaying an Image
Attachment Versions

Take me back to Confluence User Guide

Attachment Versions

An attachment is any file that is included with your page. Images, word documents, presentations, PDFs, multimedia and sound files are some examples of attachments. Attachments are useful when you want to share information that exists in another file format. Read more in the Attachment Overview.

To create a new version of an existing attachment, simply upload an attachment with the same filename.

The existing file will be kept as 'Version x', and can be accessed from the page's 'Attachments' view.

Screenshot: Attachment versions
Some additional notes:

- You cannot remove specific versions of an attachment — if you remove an attachment, all versions will be removed as well. (See feature request CONF-3079.)
- You cannot revert to a previous version of an attachment. (See feature request CONF-1943.)
- By default, attachments and their versions are stored in the `<confluence_home>/attachments` directory. (See Attachment Storage Configuration in the Administrator's Guide.) There is no limit to the number of attachments/versions, provided that there is enough disk space.

**RELATED TOPICS**

Attaching Files to a Page
Moving an Attachment
Viewing Attachment Details
Working with Attachments

To delete an attachment, you require 'Remove Attachments' permission which is assigned by a space administrator from the Space Administration screens. See Space permissions or contact a space administrator for more information.

**Deleting an Attachment**

To delete an attachment,

1. Go to the page that contains the attachment.
2. Go to the 'Attachments' view for the page. To do this:
   - Go to a page in the space, open the 'Tools' menu and select 'Attachments'. The 'Attachments' view will open.
   
   ![Screenshot: List of attachments from 'Attachments' macro, including Office documents with 'View' link](image)

   
   This will display a list of the attachments in the page. Click on the 'Remove' link beside the attachment you want to delete.
3. Click 'OK' to confirm your action.

**RELATED TOPICS**

Working with Attachments
Finding an Attachment

Displaying List of Attachments in a Page

Use Confluence's Attachments Macro to display a list of attachments that belong to the current page. It will generate a table like the image shown below.

**Screenshot: List of attachments from 'Attachments' macro, including Office documents with 'View' link**

<table>
<thead>
<tr>
<th>Name</th>
<th>Size</th>
<th>Creator (Last Modifier)</th>
<th>Creation Date</th>
<th>Last Mod Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>document.pdf</td>
<td>37 kB</td>
<td>Sarah Maddox</td>
<td>Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Edit</td>
</tr>
<tr>
<td>spreadsheet.xls</td>
<td>20 kB</td>
<td>Sarah Maddox</td>
<td>Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Edit</td>
</tr>
<tr>
<td>document.doc</td>
<td>27 kB</td>
<td>Sarah Maddox</td>
<td>Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Edit</td>
</tr>
<tr>
<td>presentation.ppt</td>
<td>106 kB</td>
<td>Sarah Maddox</td>
<td>Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Edit</td>
</tr>
</tbody>
</table>

On this page:
Usage with the Macro Browser

To insert the attachments macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the attachments macro, click 'Insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{attachments}</td>
<td>Name</td>
</tr>
<tr>
<td>office1.jpg</td>
<td>94 kB</td>
</tr>
<tr>
<td>waterfall.jpg</td>
<td>1.27 MB</td>
</tr>
</tbody>
</table>

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filename Patterns <em>(patterns)</em></td>
<td>all</td>
<td>Specify which attachments to display using filename patterns.</td>
</tr>
<tr>
<td>Include Old Attachment Versions <em>(old)</em></td>
<td>false</td>
<td>Include old attachments versions in the list.</td>
</tr>
<tr>
<td>Sort By <em>(sortBy)</em></td>
<td>date</td>
<td>Specify the sort order for attachments. Valid values are &quot;date&quot;, &quot;size&quot; and &quot;name&quot;.</td>
</tr>
<tr>
<td>Allow Upload <em>(upload)</em></td>
<td>false</td>
<td>Adds functionality to allow the upload of new attachments.</td>
</tr>
</tbody>
</table>

Examples

1. Filter Attachments by File Name

Use a comma-separated list of regular expressions to specify the filenames of the attachments you want displayed.

```
{attachments:patterns=.*jpg,.*gif}
```

**Note**
The patterns are regular expressions, so to match a file suffix of 'jpg', use *.jpg, not *.jpeg.
Here's a detailed tutorial on regular expressions.

2. Include Old Attachments

An optional true/false value determines whether to show old versions of attachments. This is set to false by default.

Viewing the List of Attachments

When you view the page, you will see a list of attachments. When the attachment is an Office document, you will see a 'View' link as shown in the screen snippet below.

**Screenshot: List of attachments from 'Attachments' macro, including Office documents with 'View' link**

<table>
<thead>
<tr>
<th>Name</th>
<th>Size</th>
<th>Creator (Last Modifier)</th>
<th>Creation Date</th>
<th>Last Mod Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>document pdf</td>
<td>37 kB</td>
<td>Sarah Maddox Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Edit</td>
</tr>
<tr>
<td>spreadsheet xld</td>
<td>20 kB</td>
<td>Sarah Maddox Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Edit</td>
</tr>
<tr>
<td>document doc</td>
<td>27 kB</td>
<td>Sarah Maddox Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Edit</td>
</tr>
<tr>
<td>presentation.ppt</td>
<td>108 kB</td>
<td>Sarah Maddox Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Nov 03, 2008</td>
<td>Edit</td>
</tr>
</tbody>
</table>

Click the 'View' link to view the content of the Office document within Confluence. If you have an Office application installed, you will also be able to launch your Office editor from within Confluence. See Displaying an Office Document in Confluence and Working with the Office Connector.

Attachment Information Icon

When a page you are viewing contains attachments, a small paperclip icon like this: ![Paperclip Icon](image) appears next to the page byline. Clicking the paperclip will take you to the 'Attachments View', where the full list of attachments is displayed.

**RELATED TOPICS**

Working with Attachments Overview
Working with Macros

Take me back to the Confluence User Guide.

Downloading Attachments

To download a single attachment of a page,

Go to the 'Attachments' view for the page. To do this:

- Go to a page in the space, open the 'Tools' menu and select 'Attachments'. The 'Attachments' view will open.
- Right-click the link on the attachment name, and select 'Save Link As'. This will open up a dialog box. Select the directory into which you want to download the file and click 'Save'.

To download all the attachments of a page,

Go to the 'Attachments' view for the page. To do this:

- Go to a page in the space, open the 'Tools' menu and select 'Attachments'. The 'Attachments' view will open.
- Click the 'Download All' link at the top of the page to download a zipped file of all the page's attachments.

**RELATED TOPICS**

Working with Attachments Overview
Viewing Attachment Details

Take me back to Confluence User Guide
Editing Attachment Details

To edit an attachment’s details, you need ‘Create Attachments’ permission which is assigned by a space administrator from the Space Administration screens. See Space Permissions or contact a space administrator for more information.

**To edit the details of an attachment,**

1. Go to the page that contains the attachment.
2. Go to the ‘Attachments’ view for the page. To do this:
   - Go to a page in the space, open the ‘Tools’ menu and select ‘Attachments’. The ‘Attachments’ view will open.
3. Click the ‘Edit’ link beside the attachment. This will bring up a new screen.
4. Make your changes:
   - **File Name** — Rename or modify the name of the attachment.
   - **New Comment** — Update the existing comment or enter a new comment.
   - **New Content Type** — Change the content type of the attachment by entering a valid Mime type.
   - **Page** — Move the attachment to another page.
   - **Update Links?** — Choose whether you want to update links to the attachment when new versions are uploaded.
5. Click ‘OK’.

**Screenshot: Editing an attachment**

**RELATED TOPICS**

Moving an Attachment
Viewing Attachment Details
Working with Attachments

Take me back to Confluence User Guide

**Embedding Multimedia Content**

You can embed multimedia files into a Confluence page as easily as you can an image. Confluence supports these formats:

- Flash (.swf)
- Quicktime movies (.mov)
- Windows Media (.wma, .wmv)
- Real Media (.rm, .ram)
- MP3 files (.mp3)
- AVI files (.avi) You may need to enable an avi decoder within your browser

You can use other types of files, but you may need to specify the ‘classid’, ‘codebase’ and ‘pluginspage’ properties so that your web browser can recognise the file type, as described below.
For security reasons, files located on remote servers are not permitted.

Other ways to display external and internal objects
Take a look at the Office Connector for embedding Office documents and presentations onto your Confluence page. Or try the Widget Connector for displaying live content from external sites.

On this page:
- Basic Usage
- Specifying File Type and Other Properties
- Troubleshooting

Basic Usage
Attach the file to the page. You can then include it as you would include an image, like this:

```
!filename.mov!
```

Specifying File Type and Other Properties
Define the properties of the embedded object using a comma-separated list of properties. For example:

```
!filename.mov|height=800,width=600,id=media!
```

If the file does not have a meaningful extension, specify the mime type like this:

```
!filename|type=image/jpeg!
```

To play .avi files, you need to specify the dimensions and type. For example, to play a test.avi file:

```
!test.avi|height=200,width=200,id=media!
```

Advanced styling via CSS
By default, each embedded object is wrapped in a div tag. If you wish to style the div and its contents, override the embeddedObject CSS class. Specifying an ID as a property also allows you to style different embedded objects differently. CSS class names in the format embeddedObject-ID are used.

Troubleshooting
- If you get an error 'Unable to embed content of type application/octet-stream', this means the mime-type is not being correctly recognised. You can add a type parameter to the macro code to override the auto-detected mime-type. See above for an example.
- For security reasons, files located on remote servers are not permitted.

RELATED TOPICS
- Widget Macro
- Working with the Office Connector
- Working with Attachments Overview

Take me back to Confluence User Guide

Embedding PowerPoint Presentations in a Page
Below are some ideas on how your wiki page can include information from a Microsoft PowerPoint presentation.

On this page:
- Option 1 - Office Connector for Confluence
- Option 2 - Gallery or Slide Show of JPEG or PNG Images
- Option 3 - Convert PowerPoint to HTML
**Option 1 — Office Connector for Confluence**

The Office Connector provides the most straightforward way to display PowerPoint slides.

To attach and display a PowerPoint presentation in Confluence,

1. Attach the presentation to a Confluence page:
   - View the Confluence page where you want to display your presentation.
   - Open the 'Tools' menu and select 'Attachments'.
   - Browse for your PowerPoint presentation and upload it to the Confluence page.
   You will find detailed instructions in Attaching Files to a Page.

2. Now you can display the document embedded into the Confluence page, via View File macro. The basic syntax is:

   ```
   {viewfile:myPresentation.ppt}
   ```

   Refer to the detailed instructions on the View File macro.

The Office Connector is shipped with Confluence 2.10 and later. The Office Connector plugin is supported for Confluence versions 2.8.0 and later.

**Option 2 — Gallery or Slide Show of JPEG or PNG Images**

1. Convert your PowerPoint pages into JPEG or PNG images, using 'save as' from PowerPoint (slide1.jpg, slide2.jpg...).
2. Upload the image files as attachments to your Confluence page. To upload in bulk, use the WebDAV plugin.
3. Use the Gallery macro or the Slideshow plugin to render the images as a slide show in Confluence.

✅ Optionally, you could create a page template or a user macro that uses the Slideshow plugin, so that you do not have to code this into the wiki page each time you create a new show.

The Slideshow plugin is not supported by Atlassian. Please weigh up your options carefully before deciding which way to go.

**Option 3 — Convert PowerPoint to HTML**

You can convert the PowerPoint file to web page format and embed the page inside your Confluence document.

⚠️ If you accept page edits or comments from untrustworthy users, you should not attempt this process, due to a risk of malicious user attacks via the html-include macro.

1. Review the risks associated with enabling the html-include macro here.
2. If you decide to proceed, follow the instructions to enable embedded HTML pages using the macro.
3. Select an PowerPoint converter. There are at least two applications that can convert PPT to HTML:
   - Producer for PowerPoint.
   - If you do not have the PowerPoint application on your machine, you can use the Internet Assistant for Powerpoint instead.
4. Download and install your chosen converter.
5. Follow the converter documentation to perform the HTML conversion. An Internet Assistant conversion guide can be found here. The conversion process will create a small collection of HTML pages. Each slide will have its own page, plus an index page with buttons to let you switch between slide pages.
6. If you wish, you can test the HTML presentation now by loading the index page in your browser.
7. Place the HTML files into their own directory, named uniquely by the title of your presentation.
8. Find a suitable location to host these files within your web server. Confluence hosts all files within the `<my-install-directory>/confluence/` directory, so a good example location for Confluence standalone users is to go to `<my-install-directory>/confluence/pages/` and create a subdirectory called `powerpoint`.
9. Move the HTML directory into the PowerPoint folder, e.g. `<my-install-directory>/confluence/pages/powerpoint/` containing `index.html`, `slide01.html`, etc... or similar.
10. Edit or create the page where you wish to embed the PowerPoint presentation. In wiki markup, insert the html-include macro pointing to the index page of your slides. Remember that URLs are case sensitive. For example
11. Save the page. The index page to your slides should now appear.

**RELATED TOPICS**

- Working with the Office Connector
- Working with Attachments Overview

Take me back to Confluence User Guide

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**Finding an Attachment**

An attachment is any file that is included with your page. Images, word documents, presentations, PDFs, multimedia and sound files are some examples of attachments. Attachments are useful when you want to share information that exists in another file format. Read more in the Attachment Overview.

To find an attachment, you can search the list of attachments in a space or the attachments on a specific page.

**To find an attachment associated with a space,**

1. Go to the 'Space Attachments' view for the current space. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Attachments'. The 'Space Attachments' view will open.
   - This will display a list of all attachments in the space.
2. You can choose to view only files of a particular type:
   - Type the last part of the file name in the 'Filter By File Extension' text field. For example, enter 'gif' to see only image files of the GIF format.
   - Click 'Go'.
3. You can view the attachment itself or the page to which it is attached by clicking on the corresponding link.

**Screenshot : Space Attachments**

<table>
<thead>
<tr>
<th>Name</th>
<th>Size</th>
<th>Creator (Last Modified)</th>
<th>Creation Date</th>
<th>Last Mod. Date</th>
<th>Attached To</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.png</td>
<td>30 kb</td>
<td>Kevin Tran</td>
<td>Jul 04, 2007</td>
<td>Jul 04, 2007</td>
<td>Connecting to HSQLDB using DBVisualizer</td>
</tr>
</tbody>
</table>

**To find attachments associated with a page,**

1. Go to the 'Attachments' view for the page. To do this:
   - Go to a page in the space, open the 'Tools' menu and select 'Attachments'. The 'Attachments' view will open.
2. This will display a list of all files attached to the page.
3. Click a link to view the corresponding attachment.

**Screenshot : Page Attachments**
**Handy Hint**
If you know the title of an attachment, you might find it faster by doing a Quick Search.

**RELATED TOPICS**

- Working with attachments
- Attaching Files to a Page
- Viewing Attachment Details
- Deleting an Attachment
- Browsing a space

Take me back to Confluence User Guide

**Linking to Attachments**

Once you have attached a file to a page, you can easily provide a link to it from the page.

This page tells you how to use Wiki Markup to link to an attachment. You can also use the Rich Text editor to link to an attachment.

Images are a special form of attachment. Read about displaying images on a page.

### Linking to an Attachment on a Page

You can link to images and other types of attachments like this:

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Linking to attachments.pdf]</td>
<td>Linking to attachments.pdf</td>
</tr>
<tr>
<td>![PDF document about linking to attachments][1] ![Linking to attachments.pdf]</td>
<td>PDF document about linking to attachments</td>
</tr>
</tbody>
</table>

Where:

'Linking to attachments.pdf' is the name of the file you want to link to.

### Linking to an Attachment on Another Page

You can link to any attachment on your Confluence site using the following syntax:

**Attached to another page in the same space:**

```
[pagetitle"attachment.ext]
```

**Attached to another page in another space:**

```
[spacekey:pagetitle"attachment.ext]
```

### Adding Link Aliases and Tips

Optionally, you can:

- use an alias to refer to the attachment.
- provide a link tip for the link.

**Example 1:**

---

1. ![Linking to attachments.pdf](attachment.ext)
2. ![PDF document about linking to attachments][1] ![Linking to attachments.pdf]
Example 2:

```
[link alias|spacekey:pagetitle^attachment.ext|link tip]
```

**Linking to a Specific Version of an Attachment**

The link format described above will always link to the current version of the attachment.

If you want to link to a particular version of an attachment you will need to use the full URL. For example:

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Version 1</td>
<td><a href="http://confluence.atlassian.com/download/attachments/139515/Linking+to+attachments.pdf?version=1">http://confluence.atlassian.com/download/attachments/139515/Linking+to+attachments.pdf?version=1</a></td>
</tr>
</tbody>
</table>

** RELATED TOPICS **

Rich Text-Linking to an Attachment  
Displaying an Image  
Attaching Files to a Page  
Displaying List of Attachments in a Page

Take me back to Confluence User Guide

**Moving an Attachment**

You can move an attachment from its current location to any page within the site.

To move an attachment, you need the following permissions:

- Edit page permission on the page where the attachment currently exists.
- Create attachment permission on the space into which you are moving the attachment.

Space permissions are assigned by a space administrator from the Space Administration screens. See Space permissions or contact a space administrator for more information.

**To move an attachment,**

1. Go to the page that contains the attachment.
2. Go to the 'Tools' menu and select 'Attachments'.
3. Click the 'Edit' link beside the attachment. This will bring up a new screen, where you can:
   - Rename the attachment in the 'File Name' text field (optional).
   - Update the existing comment or enter a new comment in the 'New Comment' text field (optional).
4. Select the page to which you want to move the attachment by clicking on the Choose a Page icon. A pop-up screen allows you to locate pages anywhere within the site.
5. Under 'Update Links', select 'Yes' to ensure that any links to this attachment are maintained when you move it. Only select 'No' if you are sure that there are no links to this attachment within the current space.
6. Click 'OK'.

**Screenshot : Moving an attachment**
Choose a Page

The 'Choose a Page' window allows you to locate a page in your Confluence site. The window appears when you are moving an attachment.

To choose a page,

1. Click the page picker icon to bring up the 'Choose a Page' window. You will see the following tabs:
   - **Search**: Allows you to search for your page in all Confluence spaces.
   - **History**: Displays a list of pages recently visited by you.
   - **Recently Modified**: Displays pages most recently modified by you.
   - **Referring Pages**: Displays a list of all pages that refer to the current page.

2. Select the required page from the list of pages in one of the tabs.

Related Topics
- Moving an Attachment

Take me back to Confluence User Guide

Viewing Attachment Details

An attachment is any file that is included with your page. Images, word documents, presentations, PDFs, multimedia and sound files are some examples of attachments. Read more about attachments in the Attachments Overview.

There are two places where you can view attachment details.

- View the attachments in a space — this will show the files/images attached to all pages in the space.
- View the attachments for a specific page.

On this page:
- Viewing Attachments in a Space
- Viewing Attachments on a Page
- Attachment Details
- Viewing Attached Office Documents
- Attachment Information Icon

Viewing Attachments in a Space
To view the attachments associated with a space,

1. Go to the ‘Space Attachments’ view for the current space. To do this:
   - Go to a page in the space, open the ‘Browse’ menu and select ‘Attachments’. The ‘Space Attachments’ view will open.

   This will display a list of all the attachments in the space. Each attachment is displayed along with its details and the page it is attached to.

2. You can choose to view only files of a particular type:
   - Type the last part of the file name in the ‘Filter By File Extension’ text field. For example, enter ‘gif’ to see only image files of the GIF format.
   - Click ‘Go’.

Screenshot 1: Space Attachment Details

Viewing Attachments on a Page

To view the attachments associated with a page,

1. Go to the page.

2. Go to the ‘Attachments’ view for the page. To do this:
   - Go to a page in the space, open the ‘Tools’ menu and select ‘Attachments’. The ‘Attachments’ view will open.

   This will display a list of all the attachments in the page along with their details. For each attachment, links are also provided to edit the attachment’s details and to delete the attachment.

Screenshot 2: Page Attachment Details

In the screenshot above, A. D. Ministrator created the first version of harbour.jpg. John Smith uploaded the second version and Jane Smith added a comment (and is listed as the last modifier).

Attachment Details

The attachment views show the following fields. (The page view shows a different subset of fields from the space view.)

- **Name** is the name of the attached file.
- **Size** tells you how much space the attachment takes up. You can sort by size by clicking the column title.
- **Creator** is the user who attached this file. The person who uploaded each new version of a file will be acknowledged as the creator of that version. Clicking on the link takes you to their profile.
- **Last modifier** is the user who last modified the file. Actions that qualify as a modification include renaming, moving, adding/updating a comment or updating the content type.
- **Creation Date** is the date the file was attached. You can sort by date by clicking the column title.
- **Last Mod. Date** is the date the file was last modified. Please refer to definition of Last Modifier for a list of actions that qualify as a modification.
**Viewing Attached Office Documents**

When the attachment is an Office document, you will see a 'View' link as shown in the screen snippet below.

**Screenshot 3: Page attachments including Office documents with 'View' link**

Click the 'View' link to view the content of the Office document within Confluence. If you have an Office application installed, you will also be able to launch your Office editor from within Confluence. See Displaying an Office Document in Confluence and Working with the Office Connector.

**Attachment Information Icon**

When a page you are viewing contains attachments, a small paperclip icon like this: ![Paperclip Icon] appears next to the page byline. Clicking the paperclip will take you to the 'Attachments View', where the full list of attachments is displayed.

**RELATED TOPICS**

Working with Attachments  
Displaying List of Attachments in a Page  
Finding an Attachment  
Editing Attachment Details  
Deleting an Attachment  
Browsing a space

Take me back to Confluence User Guide

**Working with Images**

Confluence allows you to display images on a wiki page and to link to images in other locations. You can also display a gallery of images, which your readers can view as a slide show. Below are some links to information on using images in Confluence.

- Displaying an Image  
- Displaying a Thumbnail Image  
- Viewing Images as a Slide Show  
- Displaying an Image  
- Rich Text-Inserting an image  
- Image File Formats  
- Displaying a Thumbnail Image  
- Gallery Macro  
- Embedding PowerPoint Presentations in a Page

**RELATED TOPICS**

Working with Attachments

Take me back to Confluence User Guide

**Displaying an Image**

You can display an image from either a file attached to the Confluence page, or from another location.

This page shows you how to display an image using Confluence Notation, also known as Wiki Markup.
Using the 'Insert Image' icon

Instead of Wiki Markup, you can use the 'Insert Image' icon. This behaves in a similar way for both the Wiki Markup and the Rich Text editor, as described in Inserting an image.

To follow the instructions below, you need to edit in 'Wiki Markup' mode. Put an exclamation point before and after the image link.

Displaying an image from a remote location

You need to know the URL from which the image can be linked.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>

Displaying an image attached to a page

- First, attach the image to the page.
- Now you can display the attached image:

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>!fish.gif!</td>
<td><img src="fish.gif" alt="Fish Image" /></td>
</tr>
</tbody>
</table>

Displaying an image attached to another Confluence page

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>!Space attachments directory^fish.gif!</td>
<td><img src="fish.gif" alt="Fish Image" /></td>
</tr>
</tbody>
</table>

Where 'Space Attachments Directory' is the name of the page containing the attachment.

Usage example

What if you want to upload an image only once, but display it on many pages?

- Attach the image to a page, such as our page called the 'Space attachments directory'.
- Link to the uploaded image using the syntax described above.

To view the image, the user needs to have view permission for the page to which it is attached.

Displaying an image attached to page in a difference space

<table>
<thead>
<tr>
<th>What you need to type</th>
</tr>
</thead>
<tbody>
<tr>
<td>!SPACE:my page^myimg.jpg!</td>
</tr>
</tbody>
</table>

Formatting an image
Displaying alternative text

Use the HTML `title` attribute to specify text which is displayed when the pointer is hovering over an image. Use the `alt` attribute to specify alternative text to be included in the HTML code.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>![fish.gif</td>
<td>title=&quot;I am a fish&quot;]!</td>
</tr>
<tr>
<td>![fish.gif</td>
<td>alt=&quot;I am a fish&quot;]!</td>
</tr>
</tbody>
</table>

**HTML image attributes**

For any image, you can also specify attributes of the HTML image tag as a comma-separated list of name=value pairs. Available image tags include:

- `align` — available values are 'left', 'right', 'bottom', 'center', 'top'.
- `border` — specify the width of the border (in pixels).
- `bordercolor` — use this with the above `border` tag to specify the colour of the image border. Specify the colours by name or by hex value. See more information about web colours. (Available with Confluence 2.6.2 and later.)
- `hspace` — specify the amount of whitespace to be inserted to the left and right of the image (in pixels).
- `vspace` — specify the amount of whitespace to be inserted above and below the image (in pixels).
- `width` — specify the width of the image (in pixels). This will override the natural width of the image.
- `height` — specify the height of the image (in pixels). This will override the natural height of the image.
- `title` — specify alternative text for the image, which is displayed when the pointer hovers over the image
- `alt` — specify alternative text, which is included in the HTML code. This text is retrievable via search, and contributes to accessibility of the page for text-only viewing.

**RELATED TOPICS**

- Linking an image to another page or URL
- Rich Text-Inserting an image
- Attaching Files to a Page
- Image File Formats
- Displaying a Thumbnail Image
- Gallery Macro

Take a look at some plugins too.

- ImageMap Plugin
- Other image and visualisation plugins

Take me back to Confluence User Guide

**Image File Formats**

Confluence allows you to attach image files of any format to a page. However, your ability to display them depends on the image file formats supported by the browser you are using.

Confluence supports the following image formats for its Thumbnail and Gallery macros:

- gif
- jpeg
- png

The bmp format is not supported.

**RELATED TOPICS**

- Displaying an Image
- Displaying a Thumbnail Image
- Gallery Macro

Take me back to Confluence User Guide
Displaying a Thumbnail Image

You can display an image on a Confluence page as a thumbnail, such that when a user clicks on the thumbnail image, a new window will pop up showing the full-sized image.

This page shows you how to display a thumbnail of an image using Confluence Wiki Markup Notation. To do this, you need to add the 'thumbnail' attribute to the notation used for displaying an image to a Confluence page. This resizes the original image proportionately, allowing for a maximum height or width of 200 pixels by default.

Please Note:

- Using the 'Insert Image' icon
  Instead of Wiki Markup, you can use the 'Insert Image' icon. This behaves in a similar way for both the Wiki Markup and the Rich Text editor, as described in Inserting an image.

- Setting the size of the thumbnails for your Confluence instance
  A Confluence Administrator can change the size of thumbnails via the Administration Console. This will also affect the images displayed by the Gallery macro.

- Image formats
  Confluence will only create thumbnails for these file formats: gif, jpg, and png. The bmp format is not supported.

- Image attributes
  The HTML attributes as described in Displaying an Image override the 'thumbnail' attribute.

### Thumbnail of image attached to this page

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>
| ![waterfall.jpg](attachment)
| ![waterfall.jpg](attachment) |

'waterfall.jpg' is the name of your image.

### Thumbnail of image attached to another Confluence page

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>
| ![Space attachments directory^fish.gif](attachment)
| ![Space attachments directory^fish.gif](attachment) |

'Space attachments directory' is the name of the other page.

### Specifying the default alternative text for a thumbnail image

You can specify a comment for an attached image, which will be used as the default alternative text when the image is displayed as a thumbnail.

**Attaching a new image file** - Enter the relevant comment in the Comment box provided when you attach the file to the page.

**Applying a comment to existing image attachment** - The 'Attachments' tab of the page displays all attached files. Click 'Edit' in the row of the attached image entry. In the 'New Comment' text entry field, enter the default alternative text that should be displayed whenever a thumbnail of that image appears.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>
Thumbnail and Gallery Example

**Thumbnail**

You can have Confluence automatically make a thumbnail of any inline image that is attached to a page. Clicking on the image will pop up a window containing the full-size image.

![waterfall.jpg](attachment://waterfall.jpg?thumbnail)

For more information, see Displaying a Thumbnail Image.

**Image Gallery**

The `{gallery}` macro creates a gallery of thumbnails from all of the images that are attached to a page, titling each with the appropriate attachment comment.

```
{gallery:title=Some Confluence Features, and a Waterfall}
```

*Some Confluence Features, and a Waterfall*
1. Go to the page which contains the gallery of images. See Screenshot 1 below.

2. Click an image. The slide show will start by zooming in on the image you have clicked. See Screenshot 2 below.

3. Use one of the following methods to move to the next or previous image:
   - Move your mouse cursor over the image until an arrow appears on left or right of the image. Screenshot 2 below shows the arrow on the right. Click the arrow to move to the next or previous image.
   - Or press the left- and right-arrow keys on your keyboard.

4. Use one of the following methods to close the slide show:
   - Click the cross at top right of the image.
   - Or press the Escape key on your keyboard.
   - Or click somewhere on the browser window, outside the zoomed-in image.
Screenshot 1: A gallery of images on a wiki page

**Gallery of Pictures**

Added by Sarah Maddox, last edited by Sarah Maddox on Jul 03, 2008 [view change]

Some office photos, and a waterfall

Click an image to view as a slide show

This is the waterfall

This is the first office photo

Add Labels

Add Comment

Screenshot 2: Viewing the gallery as a slide show
Confluence tries to encourage linking by making it as simple as possible. You can link to content anywhere within Confluence or an external site just as easily, using the same syntax. Confluence also gives you the flexibility to do some pretty complicated things with links.

You can create links to and from any of the editable content on the site:

- Pages in the same space, in another space, or outside Confluence
- News items
- Comments
- User profiles or personal spaces
- Mail messages
- Attachments

You can also use a Confluence link to:

- Create a new mail message.
Links in Confluence are always denoted by square brackets. Whenever you place text between square brackets, Confluence recognises it as a link.

**Handy Hints**

- Links in Confluence will not break even when you rename pages or move them between spaces on your site!
- Looking for link type not shown above? You might find a plugin can help you.
- Your Confluence administrator can configure Confluence to display icons next to each link, distinguishing external links, user links and email links.

**RELATED TOPICS**

- Rich Text—Creating and removing a link
- Changing the Title of a Link
- Working with Anchors
- CamelCase linking
- Trackback
- Linking to Confluence Pages from Outside Confluence

Take me back to Confluence User Guide

**CamelCase linking**

CamelCase is a form of markup used in many wikis where words capitalized and compounded together without spaces LikeThis, are used to create links.

By default, CamelCasing is not enabled in Confluence. However, a site administrator can turn on CamelCasing from the Administration Console. For more information about activating CamelCase Links, see Enabling CamelCase Linking in the Administrators Guide.

To link to a page in the same space using CamelCase linking

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>CamelCasePage</td>
<td>CamelCasePage</td>
</tr>
</tbody>
</table>

where:

`'CamelCasePage'` is the name of the page you want to link to.

To link to a page you intend to create later (undefined page) using CamelCase linking

Confluence allows you to create links first and add add content to pages later. This type of a link is an undefined link and is indicated with the plus sign. Clicking on the link will bring up a screen where you can add content for the page.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>NonExistentPage</td>
<td>[NonExistentPage]</td>
</tr>
</tbody>
</table>

where:

`'NonExistentPage'` is the title of the page you intend to create later.

To ensure a CamelCase word does not become a link

(Confluence 2.1.3 or later)

Sometimes you may wish to use a CamelCase word in a page, but do not want it to be drawn as a link. You can accomplish this using the {nolink} macro:

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{nolink:SomeWord}</td>
<td>SomeWord</td>
</tr>
<tr>
<td>{nl:SomeWord}</td>
<td>SomeWord</td>
</tr>
</tbody>
</table>

{nolink} and {nl} do the same thing, just use whichever you find more convenient.

The {nolink} and {nl} macros are only available in Confluence 2.1.3 or later. In versions of Confluence prior to 2.1.3, there is no way to prevent a CamelCase word from becoming a link short of disabling CamelCase linking across the entire Confluence site.
CamelCasePage

This page is a demonstration of a page that can be linked to using CamelCase linking. You can find more information on the subject here.

Changing the Title of a Link

Sometimes, you may need to change the default labels for links if they are not particularly informative or attractive, and especially if you are including the links in the middle of your own text.

To change the title of a link,

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>[the current release notes</td>
<td>Sample Release Notes]</td>
</tr>
</tbody>
</table>

Where:

- 'the current release notes' is your new label.
- 'Sample Release Notes' is the name of the page you want to link to.

Example: Changing the title of a news item

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>[an article on the subject</td>
<td>2007/06/25/Sample News]</td>
</tr>
</tbody>
</table>

Where:

- 'an article on the subject' is how you want to refer to the news item
- '2005/08/26' is the date the news item was published.
- 'Sample News' is the actual title of the news item

Example: Combining inter-space links and labelled links

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>

Where:

- 'User Guide for a previous version of Confluence' is your label.
- 'CONF27' is the space key of the space the page you want to link to is located.
- 'Confluence 2.7 User Guide' is the name of the page in that space.

Sample Release Notes

Start of release notes content


End of release notes content

**Linking an Image**

This page tells you how to link an image to another page or URL. When the user clicks the image, they will jump to the linked page. You can also read the full instructions on attaching a file to a page and displaying an image on a page.

To link an image to another page, you will embed the `image` markup inside the `linking markup`.

### To add a link from an image on a page.

The syntax below will display the attached image called 'dochome.gif' and will also link the displayed image to the 'Confluence Documentation Home' page. So when a user clicks the image, they will go to the linked page.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>![dochome.gif](Confluence Documentation Home)</td>
<td>![Confluence Documentation Home](Confluence Documentation Home)</td>
</tr>
</tbody>
</table>

### To add a link from an image attached to another page.

The syntax below will display the image called 'fish.gif', which is attached to the page called 'Displaying an image'. The syntax will also link the displayed image to the home page of the 'DOC' space. So when a user clicks the image, they will go to the linked page.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="" alt="Displaying an Image" /></td>
<td><img src="" alt="DOC:Displaying an Image" /></td>
</tr>
</tbody>
</table>

ℹ️ The colon in the example is used to specify the space key ('DOC'). The page name then defaults to the home page for the space.

**RELATED TOPICS**

- Working with Links Overview
- Displaying an Image
- Displaying a Thumbnail Image

Take a look at some plugins too.

⚠️ First read the warning on support of third-party plugins.

- ImageMap Plugin
- Other image and visualisation plugins

**Linking to Confluence Pages from Outside Confluence**

Sometimes you may want to link to a Confluence page from outside Confluence, e.g. from within another website or from within an email. In this case, you may want to link to a ‘permanent’ URL (also called a ‘permalink’), in case the name of the Confluence page changes.

(Note: if you are linking to a page from within another Confluence page, see Linking to Pages Within the Same Space or Linking to Pages in Another Space — links created in this way will be automatically updated if the page is renamed.)

### To link to a page’s ‘permanent’ URL,

1. Go to the 'Information' view for the page. To do this:
   - Go to a page in the space, open the 'Tools' menu and select 'Info'. The 'Information' view will open.
2. Copy the 'Tiny Link' and paste it into your email or external web page. This will create a link to the latest version of your Confluence page.

**RELATED TOPICS**

- Link to a Page within a Space
- Link to a Web Page
- Working with Links

Take me back to Confluence User Guide
Linking to Pages in Another Space

This page tells you how to use Confluence Notation to link to a Confluence page. Instead, you can also use the Rich Text editor.

In Confluence notation, links are always denoted by square brackets. Whenever you place text between square brackets, Confluence recognizes it as a link.

💡 You can display your own text instead of the page name: Inside the square brackets, insert the required text followed by a vertical bar and then the page name. The second example shows this.

### To link to a page in a different space

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>[DS: Brief Overview of Confluence]</td>
<td>Brief Overview of Confluence</td>
</tr>
<tr>
<td>[Here's an overview</td>
<td>DS: Brief Overview of Confluence]</td>
</tr>
</tbody>
</table>

where:

'DS' is the space key of the space you are linking to, in this instance, the Demonstration Space.

'Confluence Overview' is the name of the page in the space, 'DS'.

---

### To link to the homepage of another space

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>[DS:]</td>
<td>Demonstration Space</td>
</tr>
<tr>
<td>[demo home page</td>
<td>DS:]</td>
</tr>
</tbody>
</table>

where:

'DS' is the space key of the space you are linking to, in this instance, the Demonstration Space.

💡 The space key is the short name displayed in parentheses beside each space name on the dashboard, and in various other places across the site.

### Handy Hint

You can also create a link to any Confluence page by clicking 'Insert Link' when you are in the 'Edit' mode of a page. A pop-screen allows you to select pages from anywhere within Confluence. Selecting a page creates a link to that page.

---

**RELATED TOPICS**

- Link to a Page within a Space
- Link to a Web Page
- Working with Links

Take me back to Confluence User Guide

Linking to Pages Within the Same Space

This page tells you how to use Wiki Markup to link to a Confluence page from within another Confluence page. Instead of Wiki Markup, you can use the Rich Text editor.

### Linking to a Confluence Page

In Wiki Markup, links are denoted by square brackets. Whenever you place text between square brackets, Confluence recognises it as a link.

💡 You can display your own text instead of the page name: Inside the square brackets, insert the required text followed by a vertical bar and then the page name. The second example below shows this.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>

In the above examples, 'Confluence User Guide' is the name of the page you want to link to.
Using an Undefined Link to Create a Page

In Confluence, you can add a link which points to a page that you intend to create later. You might also use such a link to prompt other Confluence users to create pages. This type of link is called an undefined link.

To add an undefined link for later creation of a page,

1. Add a link, specifying the name of a page which does not exist. See example below.
2. Save the page which contains the undefined link. Confluence indicates undefined links by colouring them red.
3. When you (or another user) click on the link, the 'Add Page' screen appears.
4. You can then follow the steps outlined above to enter the page name, add content and save the page.

Here is an example of an undefined link:

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Link to new page]</td>
<td>[Link to new page]</td>
</tr>
</tbody>
</table>

You can also create a link to any Confluence page by clicking 'Insert Link' when you are editing a page. A popup screen allows you to select pages from anywhere within Confluence. Selecting a page creates a link to that page.

RELATED TOPICS

- Link to a Page in Another Space
- Link to a Web Page
- Working with Links
- Including the contents of a page
- Including an excerpt from a page

Take me back to Confluence User Guide

Linking to Personal User Spaces and User Profiles

You need to edit in 'Wiki Markup' mode to create a link to a user's personal space (or user profile).

You can link to a user's personal space (or user profile) easily if you know their username.

To link to a user's personal space,

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>~username</td>
<td>username</td>
</tr>
</tbody>
</table>

If the user does not have a personal space, then the link will go to their user profile.

RELATED TOPICS

- User Profile Overview
- Setting up your Personal Space
- Working with Links

Take me back to Confluence User Guide

Linking to Web Pages

This page tells you how to use Confluence Notation to link to a web page. Instead, you can also use the Rich Text editor.

In Confluence notation, links are always denoted by square brackets. Whenever you place text between square brackets, Confluence recognizes it as a link.

You can display your own text instead of the URL: Inside the square brackets, insert the required text followed by a vertical bar and then the URL. The second example shows this.

To link to a web page outside Confluence,

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>
Where:

'http://www.atlassian.com/software/confluence' is the URL that you want to link to.

Confluence will also try to find URLs within the text of the page and convert them into links, but it may have trouble separating the link from its surrounding text, especially when punctuation is involved. Putting the link inside square brackets will ensure that it is interpreted the right way.

**RELATED TOPICS**

Rich Text-Linking to a Page
Linking to Pages Within the Same Space
Linking to Pages in Another Space
Working with Links Overview

Take me back to Confluence User Guide

**Trackback**

Trackback is a mechanism by which two sites can stay informed each time one site refers to the other by means of trackback 'pings'.

In Confluence, Trackback is enabled by a [site administrator](http://www.atlassian.com/software/confluence) from the Administration Console. When Trackback is enabled, any time you link to an external webpage that supports Trackback Autodiscovery, Confluence will send a Trackback ping to that page to inform it that it has been linked to.

Confluence pages also support Trackback Autodiscovery, and when Trackback is enabled can receive trackback pings sent by other sites.

**To see who has sent a Trackback ping to a Confluence page,**

1. Go to the page.
2. Go to the 'Information' view for the page. To do this:
   * Go to a page in the space, open the 'Tools' menu and select 'Info'. The 'Information' view will open.
3. Any Trackback pings the page has received will be listed under the page's **Incoming Links**

See more information about the Information View.

**RELATED TOPICS**

Enabling Trackback
Managing External Referrers
Linking to Web Pages
Working with Links Overview

Take me back to Confluence User Guide

**Using a link to create a new mail message**

You can insert the HTML 'mailto' tag inside a Confluence link using 'Wiki Markup' as shown below.

💡 You can display your own text instead of the 'mailto' tag: Inside the square brackets, insert the required text followed by a vertical bar and then the 'mailto' tag. The second example shows this.

**Examples**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>[<a href="mailto:jsmith@non.existent.corp.com">mailto:jsmith@non.existent.corp.com</a>]</td>
<td><a href="mailto:jsmith@non.existent.corp.com">jsmith@non.existent.corp.com</a></td>
</tr>
<tr>
<td>[Sales</td>
<td><a href="mailto:jsmith@non.existent.corp.com">mailto:jsmith@non.existent.corp.com</a>]</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

Working with Links Overview
Linking to Mail

Take me back to Confluence User Guide
Working with Anchors

The Anchor Macro allows you to link to specific parts of a page. Anchor links can be especially useful when navigating between sections of a long document or when you want to link to a segment of a page and not to the page as a whole.

Anchors are invisible to the reader when the page is rendered.

Anchors are made up of two parts:

- The link
- The content to which you are linking.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples

Usage with the Macro Browser

To insert the anchor macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the anchor macro, click 'Insert' to add it to your page.

Usage with the Wiki Markup Editor

The following code creates an anchor called "here", but you can substitute this with whatever name you like.

```
{anchor:here}
```

Once an anchor is in the page, you can link to it by putting #here (or whatever anchor name you choose) at the end of a link pointing to that page.

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchor Name</td>
<td>None; name must be supplied</td>
<td>This is the name of the anchor that you will link to.</td>
</tr>
</tbody>
</table>

Examples

In the next example, there are two anchors in this page called "top" and "bottom", which you can link to like so:

```
[#top]
[#bottom]
```

These links come out like this: top bottom.

More examples follow.

Linking to an anchor in the same page
Linking to an anchor in another page

```
[nameofpage#anchorname]
```

Linking to an anchor in a page in another space

```
[spacekey:nameofpage#anchorname]
```

Linking to headings

Confluence treats all headings as anchors. So you don't have to place an anchor but simply link to it like this:

```
[#textofheading]
```

**Warning**

Page titles and links to other spaces can be combined with anchors and attachments, but you can't use attachments and anchors in the same link.

Note that if you are adding an anchor to the site welcome message, it must be to another page. Internal-only links such as (anchor:bottom) will not render.

**RELATED TOPICS**

Working with Links Overview

Take me back to the Confluence User Guide.

**Working with Labels Overview**

Labels are user-defined tag words that can be assigned to pages and spaces. You can use labels to categorise, identify or bookmark content in Confluence.

For example, you can assign the label 'accounting' to all accounts-related pages on the site. You can then browse all pages with the label 'accounting' in an individual space or across the site, do a search based on it, and even use it to filter information when you subscribe to a Confluence RSS feed.

Because labels are user-defined, you can add any word (or even make up your own) that helps you identify the content in the site.

Labels can be added or removed without affecting the page content.

There are two different types of labels:

- **Global labels** — see Adding a Global Label. A global label is available to all users across the site. Once a global label is added, any user with permission to view a page can also view its labels. Any user with permission to edit a page can add a global label to a page.
- **Personal labels** — see Adding a Personal Label. A personal label is only available to the user that created it. Any user with 'view' permission can add a personal label to a page. The personal labels start with 'my:'.

The following screenshot shows the labels at the bottom of the page's content:
Here are some of the advantages of using labels:

- Labels are user-defined which means that you decide what information is relevant to you and how you are going to label it.
- You can group pages without having to restructure the site.
- Labels are easy to add and edit, and do not affect the actual content of the page.
- You can use labels to filter information during a search.
- You can add as many labels as you like to a page.
- The RSS feed builder allows you to create a news feed based on labels.

### Related Topics
- Navigating Pages by Label
- Related Labels Macro
- Categorising Wiki Content Using Labels
- Label Macros
- Viewing Global Labels
- Content by Label Macro

Take me back to Confluence User Guide

**Adding a Global Label**

Any user with 'edit' permission for a page can add a global label to it.

To add a global label,

1. View the page. If the page already has labels, these will be listed at the bottom of the page below the page content.
2. Click the 'Add Labels' or the 'Edit' link beside the list of labels.
3. An input field will open below the existing labels. If available, it will also show you a list of 'suggested labels'. These are the labels that you have used recently and the most popular labels in the space. Your personal labels will also appear here if you have used them frequently or recently. Check if you want to use any of the suggested labels. Click a label to add it to the page.
4. If you want to add a new label, simply type it in and click 'Add'. As you type, the drop-down field will display the label closest to the word you are typing. It is possible another user may have added the same label or a similar label which you can select and reuse.
5. Click 'Done'.

```plaintext


Confluence Overview

**Labels**
- Installable example, admin, my stuff

### Children (2)
- Hide Children
- View in Hierarchy
- Add Child Page

- Page using Search Macro
- Sample Child Page

---

 nuts:cheese
Labels are always in lowercase. Even if you use uppercase characters, Confluence will convert these to lowercase when it adds the label.

Screenshot: Adding a Label

**Labels** Done

Enter labels to add to this page:

| Suggested labels: installation keys fisheye fun new to crucible festival year charity foundation |

Looking for a label? Just start typing.

**RELATED TOPICS**

- Adding a Personal Label
- Removing a label from a page
- Adding a Space Label
- Adding a Team Label

**Adding a Personal Label**

This page tells you about personal labels. You can also read about global labels.

You can use personal labels to mark content that you personally are interested in.

Any user with 'view' permission can add a personal label. Personal labels are visible only to the user who created them. To differentiate them from global labels, personal labels include the prefix 'my:' in the label name.

You can view your personal labels from your user profile.

Here are some examples of personal labels:

- my:sales
- my:stuff
- my:trivia

To add a personal label,

1. View the page which you want to label.
2. Click the 'Add Labels' or the 'Edit' link beside 'Labels'.
3. This will open up a form with an input field and a list of 'suggested labels'. An input field will open below the existing labels. If available, it will also show you a list of 'suggested labels'. These are the labels that you have used recently and the most popular labels in the space. Your personal labels will also appear here if you have used them frequently or recently. Check if you want to use any of the suggested labels. Click a label to add it to the page.
4. If you want to add a new personal label, type it in using the format 'my:label'. You can enter more than one label, separated by commas.
5. Click 'Add' to add the label.
6. Click 'Done' when you have finished, if you want to close the label input field.

**Labels are always lower case**

Even if you use uppercase characters, Confluence will convert these to lowercase when it adds the label.

Screenshot: Adding a Label
Adding a Space Label

To add a Space Label,

1. Go to the 'Space Admin' tab of the Browse Space view. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Space Admin'. The 'Space Administration' view will open.

2. Click 'Edit Space Details'. This will take you to a new screen.

3. Click 'Edit Space Labels' in the left navigation frame. In the input field displayed under the heading 'Labels', type in your label and click 'Add'. A list of suggested labels is also displayed in the form. Click on the label to add it.

Screenshot: Adding a space label
For example, if you have one or more spaces on the site that the Sales team may be interested in, you can group all these spaces together under the label 'sales'.

On the Dashboard, you can then choose 'Sales' from the drop down menu under the 'Team' tab in the spaces list, and have only the list of spaces relevant to the Sales team displayed. The 'Recently Updated' section will also display content only from these spaces.

You will need to add the same label all the spaces you want to group together.

To add a Team Label,

1. Go to the 'Space Admin' tab of the Browse Space view. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Space Admin'. The 'Space Administration' view will open.
   - 'Space Admin' is only displayed if you are a space administrator.
2. Click 'Edit Space Details'. This will take you to a new screen.
3. Click 'Edit Space Labels' in the left navigation frame.
4. In the input field displayed under 'Team Labels', type in your label and click 'Add'. A list of 'Suggested Labels' is also displayed in the form. Click on the label to add it.

**Screenshot: Adding a team label**

**Team Labels**

Team labels will appear in the drop down box inside the team tab on your dashboard. They can be used to group together related spaces for project teams.

No team labels added to this space.

**Screenshot: List of team related spaces on the dashboard**

**Spaces:**

- My
- Team
- All

A team label is used to group together a list of spaces relevant to a project team. You can display a team's spaces by selecting a label from below:

**View Spaces for Team:**

- **Confluence** (DOC)
- **Confluence 4.0 User Guide** (CONF4)
- **Confluence Community** (DOC)
- **Confluence Extensions** (CONTEXT)
- **Documentation Staging** (DOCPRIV)
Categorising Wiki Content Using Labels

Labels allow users to sub-categorise pages and reference content across multiple categories as well as Spaces.

**Label Example:**

For the purpose of this example, imagine we have a Space with pages of content on various type of vehicles.

**Vehicles Space**

(pages are in bold, while the labels are in blue)

- Cars **vehicle-type**
  - Toyota Prius **vehicle car**
  - Honda Civic **vehicle car**
  - Porshe Carrera **vehicle car**
- Motorbikes **vehicle-type**
  - Harley Davidson Sportster **vehicle motorbike**
  - Suzuki GSX-R **vehicle motorbike**

This page hierarchy can then be cross-categorised using labels, with pages referenced using the **Content by Label Macro**.

<table>
<thead>
<tr>
<th>If you want to list...</th>
<th>You would use the wiki markup:</th>
<th>These would be the pages that you would get:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle types</td>
<td><code>{contentbylabel:label=vehicle-type}</code></td>
<td>Cars, Motorbikes</td>
</tr>
<tr>
<td>All vehicles</td>
<td><code>{contentbylabel:label=vehicle}</code></td>
<td>Toyota Prius, Honda Civic, Porshe Carrera, Harley Davidson Sportster, Suzuki GSX-R</td>
</tr>
<tr>
<td>All cars</td>
<td><code>{contentbylabel:label=car}</code></td>
<td>Toyota Prius, Honda Civic, Porshe Carrera</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- Navigating Pages by Label
- Related Labels Macro
- Categorising Wiki Content Using Labels
- Label Macros
- Viewing Global Labels
- Content by Label Macro

**Label Macros**

1. **Navmap Macro**

Renders the list of pages associated with a specified label as a navigation map.

2. **Related Labels Macro**

Lists labels commonly associated with the current page’s labels.

3. **Content by Label Macro**

Displays a list of content marked with specified labels.
4. **Labels List Macro**

Lists all labels of a space, grouped alphabetically.

5. **Recently Used Labels Macro**

Lists labels most recently used in a specified scope (Global, Space, or Personal)

6. **Popular Labels Macro**

Displays popular labels in a list or in a heatmap (aka cloud).

**RELATED TOPICS**

Working with Labels Overview

Working with Macros

Take me back to the Confluence User Guide.

**Content by Label Macro**

The **Content by Label macro** lists content which has been tagged with specific labels.

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples
  - 1. Show content from a specific space
  - 2. Show only results in current space
  - 3. Show results from all spaces
  - 4. Show only content of a specified type
  - 5. Do not show the labels in the results
  - 6. Do not show the space names in the results
  - 7. Display excerpts in the results
  - 8. Specify the maximum number of results to display
  - 9. Sort by modification date
  - 10. Change the sort order

**Usage with the Macro Browser**

To insert the content by label macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the content by label macro, click 'insert' to add it to your page.

**Usage with the Wiki Markup Editor**

To display all pages with the label needs-fixing, use:

```
{contentbylabel:label=needs-fixing|showLabels=false|showSpace=false|maxResults=99|space=@self}
```

Below is a working example of the 'Content by Label' macro. In the example, we have restricted the display to 5 results. By default, Confluence lists all the labels for each result displayed. See the optional parameters below for more information.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{contentbylabel:label=needs-fixing</td>
<td>showLabels=false</td>
</tr>
</tbody>
</table>
Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol ( : ).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(author)</strong></td>
<td>None</td>
<td>Filter the results by author. The macro will display only the pages etc which are written or updated by the author(s) you specify here. You can specify one or more authors, separated by a comma.</td>
</tr>
<tr>
<td><strong>Label(s) (label) or (labels)</strong></td>
<td>None</td>
<td>This parameter is required. Use this parameter to filter the results by label. The macro will display only the pages etc which are tagged with the label(s) you specify here. You can specify one or more label values, separated by a comma or a space.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- To exclude content which matches a given label, put a minus sign (-) immediately in front of that label value. For example: if you specify a label value of <code>-badpage</code> you will get only content which is not labelled with 'badpage'.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- To indicate that the results <strong>must</strong> match a given label value, put a plus sign (+) immediately in front of that label value. For example: if you specify a label value of <code>+superpage,+goodpage</code> you will get only content which has at least two labels, being 'superpage' and 'goodpage'.</td>
</tr>
<tr>
<td><strong>Maximum Number of Pages (max) or (maxResults)</strong></td>
<td>15</td>
<td>Specify the maximum number of results to be displayed. Note that the results are sorted first, and then the maximum parameter is applied.</td>
</tr>
<tr>
<td><strong>(operator)</strong></td>
<td>OR</td>
<td>The operator to apply to the supplied lists of labels. By default, a page with <strong>any</strong> of the non-prefixed labels (that is, labels without a plus (+) or minus (-) sign immediately preceding it) will be listed. By using <code>operator=AND</code>, only pages with <strong>all</strong> of the supplied non-prefixed labels will be listed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Be aware that this parameter only modifies the behaviour of the 'Label(s)' parameter and only affects label values without a plus (+) or minus (-) sign prefix. To avoid confusion or unexpected results, it is not recommended that the operator parameter be used in conjunction with any label values prefixed with '+' or '-' signs.</strong></td>
</tr>
<tr>
<td><strong>Show Labels for Each Page (showLabels)</strong></td>
<td>true</td>
<td>Show or hide labels for results.</td>
</tr>
<tr>
<td><strong>Show Space Name for Each Page (showSpace)</strong></td>
<td>true</td>
<td>Show or hide spaces for results.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Default</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Reverse Sort (reverse)</td>
<td>false</td>
<td>Use this parameter in conjunction with the sort parameter described below. Set reverse=true to change the sort from ascending to descending. This parameter is ignored if the sort parameter is not specified.</td>
</tr>
</tbody>
</table>
| Sort By (sort)               | modified| Specify how the results should be sorted. To change the sort order from ascending to descending, use the reverse parameter described above. Note: If this parameter is not specified, the sort order defaults to descending order based on the last modification date. Values:  
  - creation — Sort by the date on which the content was added.  
  - title — Sort alphabetically by title.  
  - modified — Sort by the date on which the content was last updated. |
| Restrict to these Spaces (space) or (spaces) | @all, i.e. all spaces in your Confluence site. | This parameter allows you to filter content by space. The macro will display only the pages etc. which belong to the space(s) you specify here. You can specify one or more space keys, separated by a comma or a space.  
  - To exclude content in a specific space, put a minus sign (-) immediately in front of that space key. For example: If you specify a space key of -BADSPACE you will get only content which is not in the BADSPACE.  
  - To indicate that the results must come from a specific space, put a plus sign (+) immediately in front of that space key. For example: If you specify a space key of +GOODSPACE you will get only content in GOODSPACE. (Note that this is not particularly useful, because each content item belongs to one space only. If you put a plus sign next to one space key and list other space keys too, the other space keys will be ignored.) Special values:  
    - @self — The current space.  
    - @personal — All personal spaces.  
    - @global — All global spaces.  
    - @favorite — The spaces you have marked as favourite.  
    - @favourite — The same as @favorite above.  
    - @all — All spaces in your Confluence site.  
    - * — The same as @all above.  
  | List Title (title)           | None    | Adds a title or heading to the list.                                                                                                                                                                     |
| Include these Content Types Only (type) | all     | This parameter allows you to filter content by content type. The macro will display only the content of the type you specify here. You can specify one or more types, separated by a comma or a space.  
  - To exclude content of a given content type, put a minus sign (-) immediately in front of that content type. For example: If you specify a content type of -blogpost you will get pages and all other content except for blog posts.  
  | Display Excerpts (excerpts)  | false   | Displays the first line of excerpts for each page.                                                                                                                                                      |

**Examples**

1. Show content from a specific space

```plaintext
{contentbylabel:label-dogs,cats|space=PETS}
```
2. Show only results in current space

```
{contentbylabel:label=dogs,cats|space=3self}
```

3. Show results from all spaces

```
{contentbylabel:label=dogs,cats|space=3all}
```

4. Show only content of a specified type

The code below will show only pages (but not news items or other content types) with the labels 'dogs' or 'cats':

```
{contentbylabel:label=dogs,cats|type=page}
```

5. Do not show the labels in the results

```
{contentbylabel:label=dogs,cats|showLabels=false}
```

6. Do not show the space names in the results

```
{contentbylabel:label=dogs,cats|showSpace=false}
```

7. Display excerpts in the results

```
{contentbylabel:label=dogs,cats|excerpt=true}
```

8. Specify the maximum number of results to display

```
{contentbylabel:label=dogs,cats|max=99}
```

9. Sort by modification date

```
{contentbylabel:label=dogs,cats|sort=modified}
```

10. Change the sort order

```
{contentbylabel:label=dogs,cats|sort=modified|reverse=true}
```

RELATED TOPICS

- Related Labels Macro
- Navmap Macro
- Recently Used Labels Macro
- Working with Labels Overview
- Working with Macros

Take me back to the Confluence User Guide.

**Labels List Macro**

The **Labels List macro** displays a hyperlinked alphabetical index of all labels within the current space.

The label index generated consists of numerous cells, each beginning with one or more letters of the alphabet or a number. Each label within the space is grouped alphanumerically into its appropriately headed cell.

Each label in the Labels List macro links directly to its Labels page, that lists the pages on which the label occurs within the current space.

**Screenshot: Labels List Macro segment**
On this page:

- Usage with the Macro Browser
- Usage in Wiki Markup
- Parameters

**Usage with the Macro Browser**

To insert the Labels List macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon  on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the Labels List macro, click 'insert' to add it to your page.

**Usage in Wiki Markup**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>Segment of what you will get</th>
</tr>
</thead>
</table>

- **A** access, accessibility, account, active, activedirectory, ad, added, address, admin, administration, admin-macros, admin-other, admin-support, aggregate, all, analysis, analyzer, ancestor, anchor, anonymiser, apache, api, app, application, appserver, architecture, archive, atlassian-user, attachment, attachments, audit, authentication, auto-startup, avatars, axis

- **B** backup, bananas, base, best-practices, bindexception, blob, blog, bookmark, bottom, browser, build, builder, bulk, bundled

- **C** cache, camelcasing, case, casting, cause, certificate, change, character, check, class, clone, cloud, cluster, clustered, code, codec, coherence, columns, commenting, comments, component, compression, configuration, configuring, confluence, confluence4, confluence21, confluence21, confluence21, confluence21, confluence22, confluence22, confluence22, confluence22, confluence22, confluence22, documentation, confluence-faq, support, confluencehome, confluence-jira, confluence-label-filter, confluence-usermanagement, confluence-users, connector, consul, content, contentlabel, contents, cookies, copy, consol, corruption, cpu, create, css, custom, customisation, customising-toolkit, customising-tag, customise

- **D** daily-backup, data, database, database-configuration, data, datastorage, data-db, db2, db2-setup, db5, setup, deactivate, debug, debugging, delete, demos, dependency, details, developer, development, diagnostics, diagram, directory, disable, dox, doc, documentation, documentation-dump, duplicate, dynamic

- **E** eap, eacor, easy, editable, editor, email, embed, enable, encoding, entry, error, error-messages, error-views, example, excel, exception, explorer, export, extension, external, external-usermanagement

- **F-G** faq, faq-conf, dev, fast, fatal, favourite, feed, file, fileappend, file-flat, file-type, filelabel, filter-common-tasks, firefox, fixed, flags, fileextension, font, format, forms, forum, freeze, front-end, frozen, fun, gman, group, guide, guideline, gap
### Parameters

This macro accepts no parameters.

### RELATED TOPICS

**Working with Macros**

Take me back to the Confluence User Guide.

### Navmap Macro

The **Navmap macro** displays the list of pages associated with a specified label as a navigation map.

A label must be specified for this macro.

### On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples

### Usage with the Macro Browser

To insert the navmap macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the navmap macro, click 'insert' to add it to your page.
### Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Using Clover in Automated Builds</td>
<td>Advanced HTML encoding</td>
<td>Advanced HTML encoding</td>
<td>Advanced HTML encoding</td>
<td>Advanced HTML encoding</td>
</tr>
<tr>
<td>Advanced HTML encoding</td>
<td>Anti-XSS documentation</td>
<td>Anti-XSS documentation</td>
<td>Anti-XSS documentation</td>
<td>Anti-XSS documentation</td>
</tr>
<tr>
<td>clover-repository</td>
<td>clover-repository</td>
<td>clover-repository</td>
<td>clover-repository</td>
<td>clover-repository</td>
</tr>
<tr>
<td>clover-repository</td>
<td>clover-repository</td>
<td>clover-repository</td>
<td>clover-repository</td>
<td>clover-repository</td>
</tr>
<tr>
<td>clover-repository</td>
<td>clover-repository</td>
<td>Custom HTML may cause pages using the Pagetree macro to spin when viewed using Internet Explorer (IE)</td>
<td>Customized HTML breaks the &quot;Edit Custom HTML&quot; Page</td>
<td>DOM002 Illegal character exception occurred for a user</td>
</tr>
<tr>
<td>Edit in Word Link Macro</td>
<td>Edit in Word Link Macro</td>
<td>Internet Explorer (IE)</td>
<td>HTMLDiff</td>
<td>HTML Include Macro</td>
</tr>
<tr>
<td>HTML Include Macro</td>
<td>HTML Include Macro</td>
<td>HTML Include Replace</td>
<td>HTML Macro</td>
<td>HTML Macro</td>
</tr>
<tr>
<td>HTML Macro</td>
<td>HTML Macro</td>
<td>HTML Macro</td>
<td>HTML Macro</td>
<td>HTML Tag</td>
</tr>
<tr>
<td>NewsFeedMaker</td>
<td>Using Exported HTML in Word</td>
<td>View File Macro</td>
<td>View File Macro</td>
<td>View File Macro</td>
</tr>
</tbody>
</table>
Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (*:`*).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label</td>
<td>yes</td>
<td>none</td>
<td>Specify the label associated with the pages you want to show in the navigation map.</td>
</tr>
<tr>
<td>Map Title <em>(title)</em></td>
<td>no</td>
<td>none</td>
<td>Specify a title for the navigation map.</td>
</tr>
<tr>
<td>Number of Cells Per Row <em>(wrapAfter)</em></td>
<td>no</td>
<td>5</td>
<td>Specify the number of cells in a row</td>
</tr>
<tr>
<td>Cell Width <em>(Pixels)</em> <em>(cellWidth)</em></td>
<td>no</td>
<td>90 px</td>
<td>Specify the cell width</td>
</tr>
<tr>
<td>Cell Height <em>(Pixels)</em> <em>(cellHeight)</em></td>
<td>no</td>
<td>60 px</td>
<td>Specify the cell height</td>
</tr>
<tr>
<td>Navigation Map Theme <em>(theme)</em></td>
<td>no</td>
<td>Confluence</td>
<td>Define a theme for the navmap.</td>
</tr>
</tbody>
</table>

If you want to create your own navmap 'look and feel' (for example, one with rounded corners), you need to add a customised navmap macro theme file to the `WEB-INF/classes/templates/macros` directory. The file name convention to use is `navmap-mytheme.vm`. Use the name of your choice for the `mytheme` part of the file name, which is also the value you use for this parameter. Hence, if your theme was called `navmap-roundededges.vm`, use the value of `roundededges` for this parameter.

Examples

1. Specify a title for the navigation map

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{navmap:html</td>
<td>title=Regarding HTML}</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Advanced HTML encoding</td>
<td>Anti-XSS documentation</td>
</tr>
<tr>
<td>clover-html--report</td>
<td>clover-repot</td>
</tr>
<tr>
<td>clover-repot</td>
<td>clover-repot</td>
</tr>
<tr>
<td>Edit in Word Link Macro</td>
<td>Edit in Word Link Macro</td>
</tr>
<tr>
<td>HTML Include Macro</td>
<td>HTML Include Macro</td>
</tr>
<tr>
<td>HTML Macro</td>
<td>HTML Macro</td>
</tr>
<tr>
<td>NewsFeedMake- r</td>
<td>Using Exported HTML in Word</td>
</tr>
</tbody>
</table>
2. Specify the number of cells in a row

The default is 5 cells.

3. Specify the cell width

The default width is 90px

4. Specify the cell height

The default is 60px

RELATED TOPICS

Related Labels Macro
Content by Label Macro
Recently Used Labels Macro
Working with Labels Overview
Working with Macros

Take me back to the Confluence User Guide.

Popular Labels Macro

The **popular labels** macro renders a list/heatmap of the most popular labels used throughout your Confluence site or within a space. For example:

```
{popular-labels:style=heatmap|count=15}
```

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples

**Usage with the Macro Browser**

To insert the popular labels macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the popular labels macro, click 'Insert' to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{popular-labels:style=heatmap</td>
<td>count=15}</td>
</tr>
</tbody>
</table>
Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Tip: Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Labels to Display <em>(count)</em></td>
<td>no</td>
<td>100</td>
<td>Specifies the total number of labels to display in the heatmap.</td>
</tr>
<tr>
<td>Restrict Labels to this Space Key <em>(spaceKey)</em></td>
<td>no</td>
<td>none</td>
<td>Restricts the list of popular labels to the specified space.</td>
</tr>
<tr>
<td>Style of Labels <em>(style)</em></td>
<td>no</td>
<td>list</td>
<td>Displays the list of popular labels in standard bullet-point 'list' form or as a 'heatmap'. The heatmap style uses different font sizes depending on their rank of popularity, ordered by label names. The list style orders labels by popularity (highest first).</td>
</tr>
</tbody>
</table>

Examples

Show the 5 most popular labels in all spaces as a list

```
{popular-labels:count=5}
```

- confluence
- bamboo
- build
- crowd
- administration

Show the 20 most popular labels in the DOC space as a heatmap

```
{popular-labels:spaceKey=DOC:count=20}
```
recently used labels macro

The **recently used labels** macro renders a list of the most recently used labels in a specified scope (Global/Space/Personal).

### On this page:
- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

### Usage with the Macro Browser

To insert the recently used labels macro into a page using the Macro Browser,

1. Open your desired Confluence page, click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you’ve found the recently used labels macro, click 'Insert' to add it to your page.

### Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>(recently-used-labels)</td>
<td>favourite, database, mysql, events, usergroup, germany, hamburg, aughh, plan, bulk</td>
</tr>
</tbody>
</table>

### Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Labels to Display</td>
<td>no</td>
<td>10</td>
<td>Specifies the total number of labels to display in the list.</td>
</tr>
</tbody>
</table>
Scope for Retrieving Labels (scope) | no | global | Specifies the scope of labels to be displayed in the list. Valid values include:
- global — covers all non-personal spaces in the Confluence installation.
- space — the current space.
- personal — your own personal space.

List Style (style) | no | list | Displays the list of recently used labels in a horizontal 'list' style or in a 'table' style. The table style includes additional information such as the page to which the label was added and the user who added it.

Title (title) | no | none | Adds a title to the top of the list in table style. Titles are only visible when the List Style (style) parameter has been set to table.

RELATED TOPICS

Related Labels Macro
Content by Label Macro
Recently Used Labels Macro
Working with Labels Overview
Working with Macros

Take me back to the Confluence User Guide.

Related Labels Macro

The related labels macro lists all tagged labels from every page which has one or more labels in common with the current page.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

Usage with the Macro Browser

To insert the related labels macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the related labels macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>(related-labels)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- crowd</td>
</tr>
<tr>
<td></td>
<td>- installation</td>
</tr>
<tr>
<td></td>
<td>- database</td>
</tr>
<tr>
<td></td>
<td>- setup</td>
</tr>
<tr>
<td></td>
<td>- api</td>
</tr>
<tr>
<td></td>
<td>- integration</td>
</tr>
<tr>
<td></td>
<td>- crowdid</td>
</tr>
<tr>
<td></td>
<td>- confluence</td>
</tr>
<tr>
<td></td>
<td>- guide</td>
</tr>
<tr>
<td></td>
<td>- overview</td>
</tr>
<tr>
<td></td>
<td>- application</td>
</tr>
<tr>
<td></td>
<td>- authentication</td>
</tr>
<tr>
<td></td>
<td>- sso</td>
</tr>
<tr>
<td></td>
<td>- connectors</td>
</tr>
<tr>
<td></td>
<td>- single-sign-on</td>
</tr>
<tr>
<td></td>
<td>- configuration</td>
</tr>
<tr>
<td></td>
<td>- osuser</td>
</tr>
<tr>
<td></td>
<td>- favourite</td>
</tr>
<tr>
<td></td>
<td>- internal</td>
</tr>
<tr>
<td></td>
<td>- mysql</td>
</tr>
<tr>
<td></td>
<td>- postgresql</td>
</tr>
<tr>
<td></td>
<td>- administration</td>
</tr>
<tr>
<td></td>
<td>- jira</td>
</tr>
</tbody>
</table>
• client
• install
• hsql
• msql
• mysqlserver
• authorisation
• macro
• userguide
• user
• confluence20
• index
• list
• contents
• all
• summary
• admin
• example
• encoding
• unicode
• utf8
• http
• character
• security
• performance
• soap
• directory
• architecture
• java
• custom
• atlassian-user
• build
• httpauthenticator
• verifytokenfilter
• identity
• properties
• console
• caching
• ehcache
• framework
• middleware
• concepts
• login
• provisioning
• confluence-label-filter
• defaultcache
• securityserverclient
• openid
• website-link
• crowd-home
• plugin
• content
• space
• tutorial
• external
• help
• version
• copy
• javadoc
• unsupported
• guided-help
• online-help
• sho
• documentation
• test
• label
• fish
• loremipsum
• organise
• sort
• contentbylabel
• filterbylabel
• related
• similar
• topic
• categorizing
• categorize
• categorise
• appserver
• •
templates
template-related
configuring
confluence14
confluence21
repository_current
confluence15
adaptavist
admin-macros
formatting
confluence22
confluence23
include
atlassian-supported
codegeist
usermacro
codegeist_2007_confluence
confluence13
blog
theme
repository_excluded
non-repository
codegeist_2008_confluence
news
links
comalatech
troubleshooting
extension
developer
site-configuration
other-settings
mail-configuration
restoring-data
builder
rss
feed
update
webui
customising-tag
commercial
sharepoint
world
hello
flash
macro_security
leftnav
customisation
menu
video
csi
calendars
poll
labels
word
plugins
ui
image
map
messaging
faq_wiki
search
template
chart
charting
edit
code
workflow
email
toc
page
macros
page-info
version-history
information
versions
authors
commenters
editors
standalone
repository_pending
Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Restrict to these Labels</strong></td>
<td>no</td>
<td>none</td>
<td>Specify the labels for which you want to view related labels. For example, documentation,my:stuff.</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- Navmap Macro
- Content by Label Macro
- Recently Used Labels Macro
- Working with Labels Overview
- Working with Macros

Take me back to the Confluence User Guide.
Navigating Pages by Label

These instructions explain how to navigate Confluence pages by label. To start, you should open the 'View Labels' page.

Browsing Labels on the View Labels Page

After clicking a label on a Confluence page, you're shown the 'Browse Space > Labels' page. Here, click 'See content from all spaces' to open the 'View Labels' page.

Adding a Label to the Results

If you click another label, a new page loads, showing pages that contain both of the labels. You can continue to add labels to the results in this way.

Subtracting a Label From the Results

Once two labels are in use, links to subtract one label from the search appear at the end of the labels list. These are easily identified because these links have a preceding minus sign, like so:

Typing URLs To Find Labelled Pages

Here is an alternative method for quickly searching for labelled pages:

To search labelled pages by typing a URL,

1. Open a new web browser window.
2. In the URL bar of your web browser, type a URL like the following to search for multiple labels in pages:

   http://CONFLUENCE_HOSTNAME/label/foo+bar

3. Press Enter.
4. The 'View Labels' page will load, showing search results on pages with the labels 'foo' and 'bar'.

Screenshot: The View Labels page
Removing a label from a page

Labels are user-defined tag words that can be assigned to pages and spaces. You can use labels to categorise, identify or bookmark content in Confluence.

You can see the existing labels, and the pages which contain the labels, by Viewing Global Labels.

To remove a label from a page,

1. Go to the page that contains the label. All labels are displayed at the bottom of the page below the page content.

2. Click 'Edit' beside the list of labels (highlighted in yellow). Each of the labels will display a ✗ mark beside it.

3. Click ✗ to remove the label, then click 'Done'

RELATED TOPICS

Removing a space label

Labels are user-defined tag words that can be assigned to pages and spaces. You can use labels to categorise, identify or bookmark content in Confluence.

This page tells you how to remove a space label. If you want to remove a label from a page, read the instructions here.

To remove a space label,
1. Go to the ‘Advanced’ view for the space. To do this:
   - Go to a page in the space, open the ‘Browse’ menu and select ‘Advanced’. The ‘Advanced’ view will open.
2. Click ‘Edit’ beside the list of Space Labels. This will take you to a new screen, showing space labels in the left panel and team labels in the right panel. There will be a ‘Remove’ link beside each label.
3. Click ‘Remove’ to remove the label.

**Screenshot : Removing a space label**

**Labels**

You can group this space with other content you’ve labelled in Confluence using the box below.

- restricta-data (remove)
- categorising (remove)
- anotherlabel (remove)

**Add Label:**

Add

**Suggested Labels:**

favourite, known-issues-appserver, soap, url, customising, locknfee, tutorial, db, debug, seraph, user, documentation, i18n, sql, confluencehome, postgresql, plugin, export, other-settings, database, confluence-label-filter

**RELATED TOPICS**

Working with Labels Overview

Take me back to Confluence User Guide

**Removing a team label**

Labels are user-defined tag words that can be assigned to pages and spaces. You can use labels to categorise, identify or bookmark content in Confluence.

This page tells you how to remove a team label. If you want to remove a label from a page, read the instructions here.

To remove a team label,

1. Go to the ‘Advanced’ view for the space. To do this:
   - Go to a page in the space, open the ‘Browse’ menu and select ‘Advanced’. The ‘Advanced’ view will open.
2. Click ‘Edit’ beside the list of Team Labels. This will take you to a new screen, showing space labels in the left panel and team labels in the right panel. There will be a ‘Remove’ link beside each label.
3. Click ‘Remove’ to remove the label.

**Screenshot : Removing a team label**
RELATED TOPICS

Working with Labels Overview

Take me back to Confluence User Guide

Viewing Global Labels

Any page that has labels will have them listed together in a block, with the heading ‘Labels’.

Global labels are visible to all users with ‘view’ permission and personal labels are only visible to the user that created them.

To view global labels,

1. If you are in a page that has labels, clicking on a label will take you to the 'Label' tab of the 'Browse Space' view where all pages in the space with that label will be listed.

   Click on the link ‘See content from all spaces’ to view all pages with the same label across the site.

2. Go to the ‘Browse Space’ view. There are two ways to browse a space:
   
   • Go to a page in the space and select the option you want from the ‘Browse’ menu. The corresponding tab of the ‘Browse Space’ view will open.
   
   • Or click the icon next to the space name on the Dashboard. The ‘Pages’ tab of the ‘Browse Space’ view will open.

3. Click on the ‘Labels’ tab. You have the option to view labels in one of two ways:

   • Click ‘All labels’ to view all labels in the space. From this view, you can click on a link to view an alphabetical listing of all labels across the site. Clicking on a label will list all content in the space with that label. It will also display any related labels if they exist. Related labels are labels that frequently appear on pages together. For Example, if pages labelled with ‘sales’ also tend to have the label ‘marketing’, these will be displayed as related labels.

   • Click popular labels to view a list of the most frequently used labels in that space. From here, you can also view the most popular global labels across the site.

   Confluence defaults to one of these views when you go to the ‘Labels’ tab based on your preference on your last visit to the site.

   Each of these views also displays a list of up to fifteen most ‘Recent Labels’ and ‘Popular Labels’ in the space.

Screenshot: Labels as they are displayed on a page

Labels  Edit

exciting  fiction  cerous

Screenshot: Viewing all labels
**Viewing labelled pages**

The easiest way to find labelled content is to do a quick search for it. If there is a label matching your query, it will be listed above the search results. Clicking on the link will display all content in the site with that label. (Clicking additional labels on the following page will conduct another search, adding that label to your existing search. See also Navigating Pages by Label.)

- You can view all labelled content for a space by going to the 'Label' tab in the 'Browse Space' view of a space.
- You can view content labelled with personal labels by going to your 'Profile' and clicking on the 'Label' tab.

**Viewing labelled content**

Searched for database in all spaces excluding Mail.
There are 201 matches in Mail. Include these matches.
Matching labels: database
Related labels: oracle, appserver

Results 1 - 10 of 225 for database.

* Migrate to another database (Confluence)
  ... document will outline the steps to move your existing Confluence data from one database to another. This is relevant to all users who previously used the embedded database for their evaluation (or longer) and would like to move to a more robust external database (such as Oracle, Postgres ...  
  Jul 20, 2005

**Advanced label searching**

Using the Search Box to find labelled pages

In the search box, you can use the labelText: prefix to search specifically for page labels.
Searching for ...

<table>
<thead>
<tr>
<th>confluence labelText:plugin</th>
<th>contains the word confluence or has the label plugin</th>
</tr>
</thead>
<tbody>
<tr>
<td>confluence AND labelText:plugin</td>
<td>contains the word confluence and has the label plugin</td>
</tr>
<tr>
<td>labelText:import labelText:plugin</td>
<td>has the label import or has the label plugin</td>
</tr>
<tr>
<td>labelText:import AND labelText:plugin</td>
<td>has the label import and has the label plugin</td>
</tr>
</tbody>
</table>

### Typing URLs to find labelled pages

In the URL bar of your web browser, you can type URLs like the following to search for multiple labels in pages:

```
http://CONFLUENCE_HOSTNAME/label/foo+bar
```

On pressing enter, the 'View Labels' page will load, showing search results on pages with the labels foo and bar.

### Viewing personal labels

Any page that has labels (global or personal) will have them listed at the bottom of the page. Personal labels are only visible to the user that created them.

**To view your personal labels,**

1. Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
2. Select 'Labels' from the dropdown list. The 'Labels' view will open.
3. This will display all content with personal labels. You will also see a list of your personal labels along with the number of pages that contain the label. Click a link to see all content with that label.

### Related Topics

- Viewing Global Labels
- Viewing personal labels
- Viewing Popular Labels
- Searching Confluence

Take me back to Confluence User Guide
Another way to get to your personal labels

If you are in a page that has personal labels, click on a label to go to the 'Labels' tab of your profile, where all pages in the space with that label will be listed.

**RELATED TOPICS**

- Adding a Personal Label
- Viewing labelled pages
- Viewing Global Labels
- Viewing Popular Labels

Take me back to the Confluence User Guide.

### Viewing Popular Labels

Popular labels are labels that are frequently used. Confluence allows you to view the most popular labels both within a space and across the site.

To view popular labels,

1. Go to the 'Browse Space' view. There are two ways to browse a space:
   - Go to a page in the space and select the option you want from the 'Browse' menu. The corresponding tab of the 'Browse Space' view will open.
   - Or click the ☰️ icon next to the space name on the Dashboard. The 'Pages' tab of the 'Browse Space' view will open.

2. Click the 'Label' tab.

3. Click on the link 'popular labels'. This will list the most popular labels in the space and also display a link to view all 'global popular labels' (across the site).
   - Clicking on a label will display all content in the site with that label.
   - Click 'global popular labels' to view the most popular labels in the site.

In both these views, you have the option to sort the listing of labels to display them 'alphabetically' or in order of their 'popularity'.

The bigger the font size, the more popular the label.

**Screenshot: Viewing popular labels**

<table>
<thead>
<tr>
<th>View: Popular Labels</th>
<th>All Labels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Below are the 6 most popular labels used in Documentation Staging 2. The bigger the text, the more popular the label. Click on a label to see its associated content.</td>
<td></td>
</tr>
<tr>
<td>See also: global popular labels</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Orders: alphabetically</th>
<th>by popularity</th>
</tr>
</thead>
<tbody>
<tr>
<td>documentation e example installation label test</td>
<td></td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- Viewing labelled pages
- Viewing Global Labels
- Viewing personal labels

Take me back to Confluence User Guide

### Working with News Overview
Each space in Confluence can publish its own news. News items may be announcements, journal entries, status reports or any other timely information you would categorise as 'news' pertaining to a space. News items are also known as 'blog posts'.

News items for a space are contained in the 'News' tab under the Browse Space view of a space. Confluence catalogues the news items chronologically and allows you to browse news for the space by navigating a calendar.

Creating and editing a news item is just as easy as creating and editing any other page in Confluence.

**What would you like to do?**

- View news
- Add news
- Edit news
- Link to news
- Delete news

**RELATED TOPICS**

- Subscribing to RSS Feeds within Confluence
- Tracking Updates Overview
- Blog Posts Macro

Take me back to Confluence User Guide

### Adding News

To add a news item for a space, you require 'Create News' permission which is assigned by a space administrator from the Space Administration screens. See Space permissions or contact a space administrator for more information.

To add a news item,

1. Click the 'Add News' link located at the top of every page in the space. This will bring up the 'Add News' screen.
2. Enter a title for your news item in the 'Title' text field at the top.
3. Enter your content in the text-entry box using Confluence markup or Rich Text as you would for any other page in Confluence.
4. Add labels if you want to categorise information this way.
5. If you want to backdate your news item, click 'edit' next to 'Posting Day', as shown in the screenshot below. You can set the date to earlier than today, but you cannot set it to a future date. And you can only change the date when creating the news item, not when editing a news item.
6. Preview and click 'Save'.

You can view your news item by going to the 'News' tab under the 'Browse Space' view of the space.

*Screenshot: Adding a news item*
Deleting News

To delete news, you require ‘Remove News’ permission which is assigned by a space administrator from the Space Administration screens. See Space Permissions or contact a space administrator for more information.

To delete a page,

1. Go to the news item and click on the ‘Edit’ tab.
2. Click on the ‘Remove’ link located at the top of the page. This is only displayed if you have permission to remove this news item.

Handy Hint

Deleted news items are stored in the trash and can be recovered by a space administrator.
Linking to News

Take me back to [Confluence User Guide](#)

Editing News

To edit a news item, you require 'Create News' permission which is assigned by a space administrator from the Space Administration screens. See Space Permissions or contact a space administrator for more information.

To edit a news item,

1. Click the 'Browse Space' link for the space. This is located at the top of every page and beside the space link on the dashboard.
2. Go to the 'News' tab. A list of the most recent news items within the space is presented. A calendar allows you to browse other news items. Locate the news item you wish to edit and click its title. This will open up the news item.
3. Click the 'Edit' tab. This will bring up the 'Edit' screen. Use regular Confluence Markup to edit the news item.
4. 'Preview' your changes if desired, and click 'Update'.

Editing a news item is similar to editing any other page in Confluence. However, there are a few things to keep in mind:

- You cannot change the date of an existing news item, but you can backdate when adding a news item.
- You cannot move a news item to another space.
- A news item has no parent.

**RELATED TOPICS**

Editing an Existing Page
Working with News Overview
Adding News
Deleting News
Blog Posts Macro

Take me back to Confluence User Guide

Linking to News

This page tells you how to link to a news item. You can also read about including blog posts on your page.

You need to edit in 'Wiki Markup' mode to create a link to a news item.

To link to a news item,

1. You need to know the title of the news item as well as the date on which it was created.
2. Convert the date into the format: year/month/day.
3. You can now create a link to the news item, like this:

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you get</th>
</tr>
</thead>
<tbody>
<tr>
<td>![2007/06/25/Sample News]</td>
<td>Sample News</td>
</tr>
</tbody>
</table>

Where:

'2007/06/25' is the date the news item was published.
'Sample News' is the title of the news item.

**Examples of Use**

You have three options:

1. **Directly providing the URL (absolute path)**

   ![http://confluence.atlassian.com/display/DOC/2007/06/25/Sample+News]

   http://confluence.atlassian.com/display/DOC/2007/06/25/Sample+News
2. Including the alias as well


my blog

3. Using the relative path (on the same server)

Note: You must provide the entire path to the news item.

[my blog]DOC:2007/06/25/Sample News

my blog

You can also link to a whole day's news items, just by leaving out the news item's title at the end of the link.

[my blog]DOC:2007/06/25

my blog

You must create the news item first

Linking to a news item that has not been created yet will not result in a link. News items are very tightly bound to the time at which they were created, so it makes no sense to link to them before they exist.

To link to a list of news items within a given space,

You need to know the key of the space.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>

Where:
'myConfluenceURL' is the URL address of your Confluence system, e.g. 'confluence.mycompany.com'.
'ABC' is the key of the relevant space.

Try the Blog Posts macro for an in-page display of news items

If you'd rather show a dynamic list of news items on your page, instead of a link to the news items, try the Blog Posts macro.

RELATED TOPICS

Working with News Overview
Working with Links Overview
Blog Posts Macro

Take me back to Confluence User Guide

Viewing News

To view the news items within a space,

1. Click on the 'Browse Space' link for the space. This is located at the top of every page and beside the space link on the dashboard.

2. Go to the 'News' tab. This will display the latest news items in the space along with the date of each item and the name of its author.
Use the Calendar to help you find other news items in the space. Days which have news items are underlined to indicate that they link to a view of all the news items posted on that day.

When you are viewing a single news item, you'll see links below the calendar to the next and previous news items.

**Screenshot: Viewing News**

<table>
<thead>
<tr>
<th>^2004/11/21</th>
<th>Sep</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Octagon blog post</strong></td>
<td><strong>S e p t e m b e r</strong></td>
</tr>
<tr>
<td>Last changed: Nov 21, 2004 08:24 by Anonymous</td>
<td>123</td>
</tr>
<tr>
<td>A blog is really a piece of news, or a journal, published by a specific author.</td>
<td>45678910</td>
</tr>
<tr>
<td>Here is a blog with a guest appearance of the word 'octagon'. By searching for 'octagon' in the top right-hand menu or by a <a href="http://example.com">pre-configured search</a>, blogs can be related to other pieces of content.</td>
<td>11121314151617</td>
</tr>
<tr>
<td>In Confluence, blogs are attached to spaces, not pages. Any user, if permitted by Confluence, may write blogs which other members can notice.</td>
<td>18192021222324</td>
</tr>
<tr>
<td>Confluence will even publish blogs to the internet, for anyone to read - this feature may be enabled or disabled for each user.</td>
<td>252627282930</td>
</tr>
<tr>
<td>Read more about Confluence and RSS here.</td>
<td></td>
</tr>
</tbody>
</table>

Posted at 21 Nov @ 8:16 PM by Anonymous | 0 comments

**Related Topics**

- Blog Posts Macro
- Adding News
- Linking to News
- Browsing a space

Take me back to Confluence User Guide

### Working with the Office Connector

The Office Connector is bundled with Confluence 2.10 and later. It allows you to:

- Use Microsoft Office or OpenOffice to edit a Confluence page.
- Import an Office document into Confluence, converting its content to wiki format.
- Attach an Office document to a Confluence page and display its content in Confluence, without converting the content.
- Edit the attached document in the Office application, directly from the Confluence page.

Please be aware that source code is currently not available for the Confluence Office Connector.

**Table of Contents**

- Office Connector Prerequisites
- Installing the Firefox Add-On for the Office Connector
- Editing a Confluence Page in an Office Application
- Importing an Office Document into Confluence
- Displaying an Office Document in Confluence
- Editing an Office Document from Confluence
- Editing an Office Presentation from Confluence
- Editing an Office Spreadsheet from Confluence

**Related Topics**

- View File Macro
- Edit in Word Link Macro

Configuring the Office Connector in the Confluence Administration Guide

Take me back to Confluence User Guide

### Office Connector Prerequisites

The page describes the software and setup you need to use the Office Connector.
Your System Administrator can enable or disable the Office Connector or parts of it. The Office Connector options can appear in different places on your Confluence page, depending on the themes and configuration of your Confluence site. Please refer to Configuring the Office Connector in the Confluence Administration Guide and discuss any configuration problems with your administrator.

On this page:

- Overall Prerequisites
- Prerequisites for Displaying and Viewing Documents in Confluence
- Prerequisites for Importing Documents into Confluence
- Prerequisites for Editing Confluence Pages and Documents in Office

Overall Prerequisites

- Ensure that Java 5 (JDK 1.5) or higher is installed on your Confluence server.
- The WebDAV plugin must be enabled, because the Office Connector uses WebDAV to transfer information to and from Office documents. Note that the WebDAV plugin is bundled with Confluence, and can be enabled or disabled by the System Administrator. If necessary, refer to the instructions on enabling plugins and configuring the WebDAV options.
- Ensure that your Confluence server's base URL is set correctly. (Check it by going to the 'General Configuration' screen in the Confluence Administration Console, as described in Configuring the Server Base URL.) When a user edits a wiki page in Word and then uploads the page back to the Confluence server, the base URL determines where the document will be saved. If the base URL is incorrect, the documents may be saved to a different Confluence server.

Prerequisites for Displaying and Viewing Documents in Confluence

If you want to make use of the View File macro or to view Office documents attached to a wiki page, you need the setup described below.

**Browsers and Flash Player**

You can use any browser to view an Office document on a wiki page, provided that you have installed Adobe Flash Player version 9 or later. You do not need to have an Office desktop application installed on your computer, in order to view Office documents in Confluence.

**Document Types**

To be displayed in Confluence, the document needs to be valid Microsoft Office 97-2003 document, of the following types:

- .doc
- .xls
- .ppt
- .pdf

If you are using OpenOffice to create and edit the documents, you will need to save your document in Microsoft Office 97-2003 format before attaching it to a Confluence page.

Prerequisites for Importing Documents into Confluence

- Document import can import documents of the file type .doc. These must be valid binary Word 97-2003 documents.

Prerequisites for Editing Confluence Pages and Documents in Office

The Office Connector allows you to edit Office documents embedded in a wiki page or to edit a wiki page in Word. To make use of these editing capabilities, you will need the setup described below.

**Browsers**

- If you are using Firefox, you will need to install a Firefox add-on. Firefox will prompt you to do this, the first time the add-on is required. You will find instructions in Installing the Firefox Add-On for the Office Connector.

**Editors**

To edit documents, you will need to have Microsoft Office, OpenOffice or NeoOffice installed. (See the configuration matrix below.)

- If you are using Firefox, you can choose which of the above editors you want to use. The Firefox add-on allows you to configure this option for each document type. See Installing the Firefox Add-On for the Office Connector.
- If you are using Internet Explorer, you will need Microsoft Office. You cannot edit documents in OpenOffice when using IE.

**Configuration Matrix**

You need one of the following software combinations to edit Office documents from your wiki page:

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Office Version</th>
<th>Browser</th>
</tr>
</thead>
</table>
1. Windows Vista, or Windows XP with Service Pack 2 or 3
2. OpenOffice 2.x, or Microsoft Office XP, 2003 or 2007 (all documents must be in Microsoft Office 97-2003 compatible format)
3. Internet Explorer 6 or 7, or Firefox 2.x or 3.0

- Mac OS X
  - NeoOffice

- Linux
  - OpenOffice 2.x
  The only known supported Office editor for Linux is OpenOffice. But in theory it should work with any WebDAV-aware application.

 Firefox 2.x or 3.0

**RELATED TOPICS**

- Working with the Office Connector
- Office Connector Prerequisites
- Installing the Firefox Add-On for the Office Connector
- Editing a Confluence Page in an Office Application
- Importing an Office Document into Confluence
- Displaying an Office Document in Confluence
- Editing an Office Document from Confluence
- Editing an Office Presentation from Confluence
- Editing an Office Spreadsheet from Confluence

**Configuring the Office Connector in the Confluence Administration Guide**

Take me back to Confluence User Guide

**Installing the Firefox Add-On for the Office Connector**

If you are using Firefox as your browser, you will need to install an add-on into Firefox in order to use some features of the Office Connector. You will be prompted to install the add-on the first time you try to use a function which requires it.

For an overview of all Office Connector features, please refer to Working with the Office Connector.

**On this page:**

- Installing the Firefox Add-On
- Configuring the Add-On
  - Configuring the Add-On in Windows
  - Configuring the Add-On in Mac OS X
  - Configuring the Add-On in Linux
- Security Risks

**Installing the Firefox Add-On**

You will be prompted to install the add-on the first time you try to use a function which requires it. The add-on is required for editing a wiki page in Office, or for editing an Office document which is displayed on a wiki page.

1. When you choose an option which requires the Firefox add-on, you will see a popup window like this one:

   ![Plugin Download Popup](image)

   A plugin is required to use this feature. Would you like to download it?

   - OK
   - Cancel

2. Click ‘OK’. Some browsers may now ask you to confirm the download with a message bar across the top of the page, beneath the browser's address bar.
   - You may see a message like the yellow bar shown here:
Click 'Allow'.

- Or you may see a similar message with an 'Edit Options' button like this:

  ![Edit Options message](image)

  If you see the above message, click 'Edit Options'. You will then see an 'Allowed Sites' window like this:

  ![Allowed Sites window](image)

  You can specify which web sites are allowed to install add-ons. Type the exact address of the site you want to allow and then click 'Allow'.

  ![Address of web site](image)

  This window lets you tell Firefox that your Confluence server is allowed to install add-ons into Firefox. The 'Address of web site' box should already contain the address of your Confluence server.

- Click the 'Allow' button to add your Confluence server to the list.
- Go back to your Confluence page and try to edit your Office document again, e.g. by clicking 'Edit in Word' again.

Now you will see the option to install the add-on.

3. A 'Software Installation' window will appear, asking you to confirm the installation. The window will look something like the one below, but the URL will be the address of your own Confluence server:
4. Click 'Install Now'. The installation will happen and a window will pop up asking you to restart Firefox:

5. Make sure you have saved all your Confluence pages and any other work in your browser, then restart Firefox.

6. If Firefox asks you to confirm the restart, confirm it.

7. Firefox will close all the browser windows and will then start up again. You will see a window confirming that a new add-on has been installed, like this:
Configuring the Add-On

After you have installed the add-on into Firefox, you will need to configure it. Basically, you will associate a desktop application (editor) with each relevant file type. This tells the Office Connector which application to launch when it encounters a link to an editable file. The configuration is slightly different for each operating system, as described below.

Configuring the Add-On in Windows

The add-on can will automatically configure itself on Windows via the system registry. The first time you edit a new file type, the add-on will look up the default editor for that file type and make that the permanent setting.

If you want to override the registry settings, or if for some reason the automatic configuration is not working, you can configure the Firefox add-on manually.

1. In Firefox, go to the ‘Tools’ menu and select ‘WebDAV Launcher Options’, as shown in this screenshot:

2. A ‘WebDAV Launcher Options’ window will appear, allowing you to associate a specific file type (file extension) with a desktop application (editor). The window looks like this one:
3. In the 'File Extension' box, enter the extension for a particular file type. For example, you may want to associate the 'doc' file extension with Microsoft Word. To do this, you would type 'doc' in the File Extension text box:

4. Enter the 'Application Path' — Use one of the following methods to specify the associated application for editing the given file type:
   - Click the 'Auto' button to load the associated application from the Windows registry.
   - Alternatively, you can click the 'Browse' button to find the application on your computer.
   - Or you can manually type in the path to the application's executable file.
4. Click the 'Add' button. The file extension association will be added to the list. In the picture below you can see that the 'doc' extension has been associated with 'C:\Program Files\Microsoft Office\OFFICE11\WINWORD.EXE'. This is the path to the Microsoft Word 2003 executable on a specific Windows machine.

5. **Configuring the Add-On in Mac OS X**

The only supported Office editor for Mac OS X is NeoOffice. (See Office Connector Prerequisites.)

The add-on will try to configure itself automatically by looking under /Applications/NeoOffice, which is the default installation location for NeoOffice.

If the automatic configuration does not work, you will need to associate your NeoOffice executable with each file type.

The configuration procedure is similar to Windows, as shown above. Note that there is no 'Auto' button in Mac OS X.

**Configuring the Add-On in Linux**

The only known supported Office editor for Linux is OpenOffice. (See Office Connector Prerequisites.)
There is no automatic configuration on Linux. You will need to associate each file type with your Office editor in Firefox. Note that there is no ‘Auto’ button in Linux.

The configuration procedure is similar to Windows, as shown above.

For both Ubuntu and OpenSUSE, the configuration will look something like this:

<table>
<thead>
<tr>
<th>File Extension</th>
<th>Application Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>doc</td>
<td>/usr/bin/oowriter</td>
</tr>
<tr>
<td>ppt</td>
<td>/usr/bin/ooimpress</td>
</tr>
<tr>
<td>xls</td>
<td>/usr/bin/oocalc</td>
</tr>
</tbody>
</table>

Security Risks

Please be aware that there are security risks in installing this add-on to Firefox. Internet Explorer is exposed to the same risks, because it can directly open Office documents. By installing the add-in into Firefox, you are exposing Firefox to the same risks.

Summary of the risks:

- Office documents can contain macro viruses. Before opening an Office document, make sure that you trust the source of the document.
- There are known flaws in the Office file formats and Microsoft Office that an attacker can exploit to gain control of your machine. Microsoft has fixed the known exploits in the latest Service Packs for all Microsoft Office versions. But new exploitations may arise at any time. Again, be sure that you trust the source of a document before opening it.

The add-on tries to reduce the risk by supporting the following:

- **Same origin policy** — The add-on can only open documents from the same host that initiated the action.

- **Digital signature** — The add-on is digitally signed. When you install the add-on please verify that it is signed by Benryan Software Inc.

- **Prompt the user for confirmation** — You will always be warned before a file is opened. Please read these warnings carefully before opening a file. The warning tells you the complete URL of the file as well as the complete application path of the application opening the file.

**Related Topics**

- Working with the Office Connector
- Office Connector Prerequisites
- Installing the Firefox Add-On for the Office Connector
- Editing a Confluence Page in an Office Application
- Importing an Office Document into Confluence
The Office Connector in Confluence allows you to edit a wiki page in Microsoft Word or in another Office application. This allows you to open the Confluence page in the Office editor of your choice and use the Office editor’s rich editing functionality to update the wiki page. You can then save the page directly back to Confluence.

This is just one of the ways Confluence can interact with Office documents. For an overview of all Office Connector features, please refer to Working with the Office Connector.

On this page:
- Prerequisites
- Editing a Confluence Page in an Office Application
- Troubleshooting

Prerequisites

The Office Connector allows you to edit Office documents embedded in a wiki page or to edit a wiki page in Word. To make use of these editing capabilities, you will need the setup described below.

Browsers

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<th>Office Version</th>
<th>Browser</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows Vista, or</td>
<td>OpenOffice 2.x, or</td>
<td>Internet Explorer 6 or 7, or</td>
</tr>
<tr>
<td>Windows XP with Service</td>
<td>Microsoft Office XP, 2003 or 2007 (all documents</td>
<td>Firefox 2.x or 3.0</td>
</tr>
<tr>
<td>Pack 2 or 3</td>
<td>must be in Microsoft Office 97-2003 compatible</td>
<td></td>
</tr>
<tr>
<td></td>
<td>format)</td>
<td></td>
</tr>
<tr>
<td>Mac OS X</td>
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<td></td>
</tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>WebDAV-aware application.</td>
<td></td>
</tr>
</tbody>
</table>

Editing a Confluence Page in an Office Application

To edit a Confluence page in your Office editor,
1. View the Confluence page that you want to edit.

2. Open the 'Tools' menu and select 'Edit in Word'.

   The 'Edit in Word' option can appear in different places on your Confluence page, depending on the themes and configuration of your Confluence site. By default, the 'Edit in Word' option appears in the 'Tools' menu, as described above. Other possible locations are described in Configuring the Office Connector in the Confluence Administration Guide.

   [Screenshot: 'Edit in Word' option in the 'Tools' menu]
3. A window will pop up, asking you to confirm that you want to open this document.

Screenshot: Confirmation window in Firefox

[Image of Warning message]

This poses a security risk. If you didn’t initiate this action or you don’t trust the source of the file, please click Cancel.

4. Click ‘OK’. Your Office application will open, containing the content of the Confluence page as rich text.

5. Make the necessary changes, then save the document. The content will be saved back into Confluence.

Tips: All you need to do is save the document, via the ‘Save’ button or Ctrl-S or whatever. You do not need to do a ‘Save As’ and navigate back to the WebDAV repository. Your Office application knows where the document came from and does the work of saving back to the WebDAV file system.

6. Reload the Confluence page to see that your changes have been applied.

Troubleshooting

Problems? Please refer to our guide to the Office Connector limitations and known issues.

RELATED TOPICS

Edit in Word Link Macro
Working with the Office Connector

- Office Connector Prerequisites
- Installing the Firefox Add-On for the Office Connector
- Editing a Confluence Page in an Office Application
- Importing an Office Document into Confluence
- Displaying an Office Document in Confluence
- Editing an Office Document from Confluence
- Editing an Office Presentation from Confluence
- Editing an Office Spreadsheet from Confluence

Configuring the Office Connector in the Confluence Administration Guide

Take me back to Confluence User Guide
**Importing an Office Document into Confluence**

The Office Connector in Confluence allows you to import an Office document into Confluence, so that the document's content is copied onto one or more Confluence pages.

This is just one of the ways Confluence can interact with Office documents. For an overview of all Office Connector features, please refer to Working with the Office Connector.

Your System Administrator can enable or disable the Office Connector or parts of it. The Office Connector options can appear in different places on your Confluence page, depending on the themes and configuration of your Confluence site. Please refer to Configuring the Office Connector in the Confluence Administration Guide and discuss any configuration problems with your administrator.

**On this page:**
- Prerequisites for the Document Import Feature
- Importing an Office Document into Confluence
  - Importing an Office Document onto a Single Wiki Page
  - Splitting an Office Document into Multiple Wiki Pages
  - Creating a New Wiki Page on Import

**Prerequisites for the Document Import Feature**

- Document import can import documents of the file type `.doc`. These must be valid binary Word 97-2003 documents.

Above are the prerequisites for the Office Connector's Document Import feature. For a full list of Office Connector prerequisites and limitations, please refer to:

- Office Connector Prerequisites
- Office Connector Limitations and Known Issues

**Importing an Office Document into Confluence**

The simplest way to import an Office document is to import the entire content of the document into a single wiki page. By default, the content of the document will replace any existing content on the wiki page.

More advanced options allow you to import the content into a new page, to split a single document into more than one wiki page, and to resolve conflicts in the titles of your pages.

These options are described below.

**Importing an Office Document onto a Single Wiki Page**

The simplest way to import an Office document is to import the entire content of the document into a single wiki page.

This method will replace any existing content on the wiki page.

To import an Office document onto a single wiki page,

1. Create a page in Confluence (see Creating a New Page) or go to an existing page whose content you want replaced.
2. Open the 'Tools' menu and select 'Doc Import'. The Office Connector import screen will appear.
3. Click the 'Browse' button and find the Office document on your local drive or network.
4. Click the 'Open' or 'Upload' button provided by your browser. The path and file name of the document will now appear in the text box on the Office Connector import screen.
5. Click the 'Import' button on the Office Connector import screen.
6. When the upload has finished, the content of the Office document will have been transformed into Confluence page content. You can now view and edit this page in the normal way, using the Confluence Rich Text Editor or Wiki Markup. There is no connection between the original Office document and this wiki page.

**Screenshot: Empty page ready for import**
Splitting an Office Document into Multiple Wiki Pages

When importing an Office document, you can split a single document into more than one wiki page, based on the heading styles in the document.

By default, the page names will be the same as the heading text. This may result in a conflict, if a page already exists with the same title. You can instruct the importer how to handle such conflicts.

To import an Office document into multiple wiki pages,
1. Create a page in Confluence (see Creating a New Page) or go to an existing page whose content you want replaced.

2. Open the 'Tools' menu and select 'Doc Import'. The Office Connector import screen will appear.

3. Click the 'Browse' button and find the Office document on your local drive or network.

4. Click the 'Open' or 'Upload' button provided by your browser. The path and file name of the document will now appear in the text box on the Office Connector import screen.

5. Click the 'Advanced' button on the Office Connector import screen. The Advanced options screen appears.

6. Choose a 'Root Page Title'. This will be the name of the top-most page created.

7. Under 'Title Conflicts', select one of the following options:
   - 'Imported pages become new versions of existing pages with the same title' — If a page already exists in Confluence with a title equal to the new page, then the content of the Office document will overwrite the content on the existing page. Page history will be preserved.
   - 'Imported pages should be auto-renamed if their titles conflict with existing pages' — Confluence will assign new names to any new page which would otherwise have a duplicate name. The content of existing pages will remain unchanged.
   - 'Delete existing pages with the same title as imported pages' — Before creating the new page, Confluence will remove any existing page which has the same title. This will remove the page history as well as the content.

8. In the dropdown list next to the 'Split' option, select the required heading level. Confluence will create a new wiki page for each occurrence of this heading level in your Office document. For example, if you choose 'Level 1' and your Office document has 5 level-1 headings then Confluence will create 5 pages, with titles equal to the text of the headings.

9. Check the 'Document Outline', which shows the structure of your document based on its heading styles. Each bullet point in the 'Document Outline' represents a new page after import into Confluence.

10. Click the 'Import' button.

11. When the upload has finished, the content of the Office document will have been transformed into Confluence page(s). You can now view and edit the page(s) in the normal way, using the Confluence Rich Text Editor or Wiki Markup. There is no connection between the original Office document and the wiki page(s) derived from it.

**Screenshot: Splitting a single Office document into multiple wiki pages**

---

**Creating a New Wiki Page on Import**

When you import a document into an existing wiki page, the content of the document will replace any existing content on the wiki page. You can use the advanced import options to create a new page instead.

The new page will become a child of the space's home page.

**To import an Office document into a new wiki page,**
1. Go to any existing page in the Confluence space where you want to import content.
2. Open the 'Tools' menu and select 'Doc Import'. The Office Connector import screen will appear.
3. Click the 'Browse' button and find the Office document on your local drive or network.
4. Click the 'Open' or 'Upload' button provided by your browser. The path and file name of the document will now appear in the text box on the Office Connector import screen.
5. Click the 'Advanced' button on the Office Connector import screen. The Advanced options screen appears.
6. For 'Root Page Title', enter a title for your new page.
7. For the 'Where to Import' option, choose 'Import as new page in current space'.
8. Click the 'Import' button.
9. When the upload has finished, the content of the Office document will have been transformed into a new Confluence page, as a child of the space's home page. You can now view and edit the page in the normal way, using the Confluence Rich Text Editor or Wiki Markup. There is no connection between the original Office document and the wiki page derived from it.

Screenshot: Importing an Office document into a new wiki page

RELATED TOPICS

Working with the Office Connector

- Office Connector Prerequisites
- Installing the Firefox Add-On for the Office Connector
- Editing a Confluence Page in an Office Application
- Importing an Office Document into Confluence
- Displaying an Office Document in Confluence
- Editing an Office Document from Confluence
- Editing an Office Presentation from Confluence
- Editing an Office Spreadsheet from Confluence

Configuring the Office Connector in the Confluence Administration Guide

Take me back to Confluence User Guide

Displaying an Office Document in Confluence

You can display and view an Office document that is attached to a Confluence page. If you have an Office application installed, you will also be able to edit the Office document in your Office application.

This is just one of the ways Confluence can interact with Office documents. For an overview of all Office Connector features, please refer to Working with the Office Connector.

Your System Administrator can enable or disable the Office Connector or parts of it. The Office Connector options can appear in different places on your Confluence page, depending on the themes and configuration of your Confluence site. Please refer to Configuring the Office Connector in the Confluence Administration Guide and discuss any configuration problems with your administrator.

On this page:
Prerequisites

If you want to make use of the View File macro or to view Office documents attached to a wiki page, you need the setup described below.

Browsers and Flash Player

You can use any browser to view an Office document on a wiki page, provided that you have installed Adobe Flash Player version 9 or later. You do not need to have an Office desktop application installed on your computer, in order to view Office documents in Confluence.

Document Types

To be displayed in Confluence, the document needs to be valid Microsoft Office 97-2003 document, of the following types:

- .doc
- .xls
- .ppt
- .pdf

If you are using OpenOffice to create and edit the documents, you will need to save your document in Microsoft Office 97-2003 format before attaching it to a Confluence page.

Attaching and Displaying an Office Document

To attach and display an Office document in Confluence,

1. Attach the Office document to a Confluence page:
   - View the Confluence page where you want to display your document.
   - Open the 'Tools' menu and select 'Attachments'.
   - Browse for your Office document and upload it to the Confluence page.
   - You will find detailed instructions in Attaching Files to a Page.

2. Now you have two options for displaying the attached document:
   - You can display the document embedded into the Confluence page, via the Office Word, Office Excel, Office PowerPoint or View PDF macros in the macro browser. Refer to the detailed instructions on the View File macro.
   - You can also display a list of attachments via the attachments macro. People viewing the page will be able to click the 'View' link to see the Office or PDF document in Confluence.

   Alternatively, you can use the Wiki Markup syntax `{attachments}`.

Viewing and Editing the Attached Office Document

If an Office document is attached to a Confluence page, you can view the attached Office document from within Confluence. View the Office document in one of the following ways:

- Search for the Office document by file name, then click the 'View' link next to the Office document on the Search results page. (See Searching Confluence.)
- View the list of attachments for a specific Confluence page, then click the 'View' link next to the Office document on the Attachments page. (See Viewing Attachment Details.)
- View a list of attachments displayed on a page via the Attachments macro, then click the 'View' link next to the Office document in the list of attachments. (See Displaying List of Attachments in a Page.)
- View a Confluence page which has the Office document embedded in the page via the View File macro. (See View File Macro.)

Any Confluence user who has an Office application installed will also be able to launch their Office editor from within Confluence:

- Editing an Office Document from Confluence.
- Editing an Office Presentation from Confluence.
- Editing an Office Spreadsheet from Confluence.

Troubleshooting

Problems? Please refer to our guide to the Office Connector limitations and known issues.

RELATED TOPICS

View File Macro
Working with the Office Connector

- Office Connector Prerequisites
Installing the Firefox Add-On for the Office Connector

When viewing a wiki page that displays an attached Office document, you can launch your Office editor directly from Confluence. This allows you to edit a Word document from within Confluence and save it back to Confluence.

This is just one of the ways Confluence can interact with Office documents. For an overview of all Office Connector features, please refer to Working with the Office Connector.

Your System Administrator can enable or disable the Office Connector or parts of it. The Office Connector options can appear in different places on your Confluence page, depending on the themes and configuration of your Confluence site. Please refer to Configuring the Office Connector in the Confluence Administration Guide and discuss any configuration problems with your administrator.

On this page:
- Prerequisites for Editing an Attached Office Document
- Step 1. View the Office Document in Confluence
- Step 2. Open the Document in your Office Application
- Troubleshooting

Prerequisites for Editing an Attached Office Document

The Office Connector allows you to edit Office documents embedded in a wiki page or to edit a wiki page in Word. To make use of these editing capabilities, you will need the setup described below.

**Browsers**
- If you are using Firefox, you will need to install a Firefox add-on. Firefox will prompt you to do this, the first time the add-on is required. You will find instructions in Installing the Firefox Add-On for the Office Connector.

**Editors**
To edit documents, you will need to have Microsoft Office, OpenOffice or NeoOffice installed. (See the configuration matrix below.)
- If you are using Firefox, you can choose which of the above editors you want to use. The Firefox add-on allows you to configure this option for each document type. See Installing the Firefox Add-On for the Office Connector.
- If you are using Internet Explorer, you will need Microsoft Office. You cannot edit documents in OpenOffice when using IE.

**Configuration Matrix**
You need one of the following software combinations to edit Office documents from your wiki page:

<table>
<thead>
<tr>
<th>Operating System</th>
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<th>Browser</th>
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</tr>
</tbody>
</table>

The only known supported Office editor for Linux is OpenOffice. But in theory it should work with any WebDAV-aware application.

**Step 1. View the Office Document in Confluence**
If an Office document is attached to a Confluence page, you can view the attached Office document from within Confluence. View the Office document in one of the following ways:

- Search for the Office document by file name, then click the 'View' link next to the Office document on the Search results page. (See Searching Confluence.)
- View the list of attachments for a specific Confluence page, then click the 'View' link next to the Office document on the Attachments page. (See Viewing Attachment Details.)
- View a list of attachments displayed on a page via the Attachments macro, then click the 'View' link next to the Office document in the list of attachments. (See Displaying List of Attachments in a Page.)
- View a Confluence page which has the Office document embedded in the page via the View File macro. (See View File Macro.)

**Step 2. Open the Document in your Office Application**

To edit the Office document in your Office application,

1. Move your mouse pointer to the top of the document embedded in the Confluence page, until the hidden title bar appears.

_Screenshot: The title bar showing 'document.doc' above an embedded Office document_
2. Click the title bar above the embedded document. A window will pop up, asking you to confirm that you want to open this document.

_Screenshot: Confirmation window in Firefox_

**Warning!**

The following location is going to be opened on your computer:


By the program:

C:\Program Files\Microsoft Office\OFFICE11\WINWORD.EXE

This poses a security risk. If you didn't initiate this action or you don't trust the source of the file, please click Cancel.

[OK] [Cancel]

_Screenshot: Confirmation window in Internet Explorer_

**File Download**

Some files can harm your computer. If the file information looks suspicious or you do not fully trust the source, do not open the file.

You are opening the following file:

File name: document.doc
From: qa-eac.atlassian.com

[OK] [Cancel]
3. Click 'OK'. Now you may be asked to log in to your Confluence server.

![Screenshot: Logging in to Confluence]

4. Enter your Confluence username and password, then click 'OK'.
5. The Office document will open in your Office application.
6. Make the necessary changes, then save the document. It will be saved back into Confluence.

Troubleshooting

Problems? Please refer to our guide to the Office Connector limitations and known issues.

RELATED TOPICS

Working with the Office Connector
- Office Connector Prerequisites
- Installing the Firefox Add-On for the Office Connector
- Editing a Confluence Page in an Office Application
- Importing an Office Document into Confluence
- Displaying an Office Document in Confluence
- Editing an Office Document from Confluence
- Editing an Office Presentation from Confluence
- Editing an Office Spreadsheet from Confluence

Configuring the Office Connector in the Confluence Administration Guide

Take me back to Confluence User Guide

Editing an Office Presentation from Confluence

When viewing a wiki page that displays an attached Office document, you can launch your Office editor directly from Confluence. This allows you to edit a PowerPoint presentation from within Confluence and save it back to Confluence.

This is just one of the ways Confluence can interact with Office documents. For an overview of all Office Connector features, please refer to Working with the Office Connector.

Your System Administrator can enable or disable the Office Connector or parts of it. The Office Connector options can appear in different places on your Confluence page, depending on the themes and configuration of your Confluence site. Please refer to Configuring the Office Connector in the Confluence Administration Guide and discuss any configuration problems with your administrator.

On this page:
- Prerequisites for Editing an Attached Office Presentation
- Step 1. View the Office Presentation in Confluence
Prerequisites for Editing an Attached Office Presentation

The Office Connector allows you to edit Office documents embedded in a wiki page or to edit a wiki page in Word. To make use of these editing capabilities, you will need the setup described below.

Browsers

- If you are using Firefox, you will need to install a Firefox add-on. Firefox will prompt you to do this, the first time the add-on is required. You will find instructions in Installing the Firefox Add-On for the Office Connector.

Editors

To edit documents, you will need to have Microsoft Office, OpenOffice or NeoOffice installed. (See the configuration matrix below.)

- If you are using Firefox, you can choose which of the above editors you want to use. The Firefox add-on allows you to configure this option for each document type. See Installing the Firefox Add-On for the Office Connector.
- If you are using Internet Explorer, you will need Microsoft Office. You cannot edit documents in OpenOffice when using IE.

Configuration Matrix

You need one of the following software combinations to edit Office documents from your wiki page:

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</tbody>
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Step 1. View the Office Presentation in Confluence

If an Office document is attached to a Confluence page, you can view the attached Office document from within Confluence. View the Office document in one of the following ways:

- Search for the Office document by file name, then click the 'View' link next to the Office document on the Search results page. (See Searching Confluence.)
- View the list of attachments for a specific Confluence page, then click the 'View' link next to the Office document on the Attachments page. (See Viewing Attachment Details.)
- View a list of attachments displayed on a page via the Attachments macro, then click the 'View' link next to the Office document in the list of attachments. (See Displaying List of Attachments in a Page.)
- View a Confluence page which has the Office document embedded in the page via the View File macro. (See View File Macro.)

Step 2. Open the Presentation in your Office Application

To edit the presentation in your Office application,
1. Click the 'Edit' icon on the bottom frame of the slide show.

_Screenshot: PowerPoint presentation displayed on a Confluence page_
2. A window will pop up, asking you to confirm that you want to open this document.

Screenshot: Confirmation window in Firefox

![Warning dialog in Firefox]

Warning!
The following location is going to be opened on your computer:


By the program:

C:\Program Files\Microsoft Office\OFFICE11\POWERPNT.EXE

This poses a security risk. If you didn’t initiate this action or you don’t trust the source of the file, please click Cancel.

Screenshot: Confirmation window in Internet Explorer

File Download

![Warning dialog in Internet Explorer]

Some files can harm your computer. If the file information looks suspicious or you do not fully trust the source, do not open the file.

You are opening the following file:

File name: JIRA Webinar v2.ppt
From: extranet.atlassian.com

OK Cancel
3. Click 'OK'. Now you may be asked to log in to your Confluence server.

4. Enter your Confluence username and password, then click 'OK'.
5. The presentation will open in your Office application.
6. Make the necessary changes, then save the presentation. It will be saved back into Confluence.

Troubleshooting

Problems? Please refer to our guide to the Office Connector limitations and known issues.

RELATED TOPICS

Working with the Office Connector

- Office Connector Prerequisites
- Installing the Firefox Add-On for the Office Connector
- Editing a Confluence Page in an Office Application
- Importing an Office Document into Confluence
- Displaying an Office Document in Confluence
- Editing an Office Document from Confluence
- Editing an Office Presentation from Confluence
- Editing an Office Spreadsheet from Confluence

Configuring the Office Connector in the Confluence Administration Guide

Take me back to Confluence User Guide

Editing an Office Spreadsheet from Confluence

When viewing a wiki page that displays an attached Office document, you can launch your Office editor directly from Confluence. This allows you to edit an Excel spreadsheet from within Confluence and save it back to Confluence.

This is just one of the ways Confluence can interact with Office documents. For an overview of all Office Connector features, please refer to Working with the Office Connector.

Your System Administrator can enable or disable the Office Connector or parts of it. The Office Connector options can appear in different places on your Confluence page, depending on the themes and configuration of your Confluence site. Please refer to Configuring the Office Connector in the Confluence Administration Guide and discuss any configuration problems with your administrator.

On this page:

- Prerequisites for Editing an Attached Office Spreadsheet
- Step 1. View the Office Spreadsheet in Confluence
Prerequisites for Editing an Attached Office Spreadsheet

The Office Connector allows you to edit Office documents embedded in a wiki page or to edit a wiki page in Word. To make use of these editing capabilities, you will need the setup described below.

Browsers

- If you are using Firefox, you will need to install a Firefox add-on. Firefox will prompt you to do this, the first time the add-on is required. You will find instructions in Installing the Firefox Add-On for the Office Connector.

Editors

To edit documents, you will need to have Microsoft Office, OpenOffice or NeoOffice installed. (See the configuration matrix below.)

- If you are using Firefox, you can choose which of the above editors you want to use. The Firefox add-on allows you to configure this option for each document type. See Installing the Firefox Add-On for the Office Connector.
- If you are using Internet Explorer, you will need Microsoft Office. You cannot edit documents in OpenOffice when using IE.

Configuration Matrix

You need one of the following software combinations to edit Office documents from your wiki page:

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Step 1. View the Office Spreadsheet in Confluence

If an Office document is attached to a Confluence page, you can view the attached Office document from within Confluence. View the Office document in one of the following ways:

- Search for the Office document by file name, then click the 'View' link next to the Office document on the Search results page. (See Searching Confluence.)
- View the list of attachments for a specific Confluence page, then click the 'View' link next to the Office document on the Attachments page. (See Viewing Attachment Details.)
- View a list of attachments displayed on a page via the Attachments macro, then click the 'View' link next to the Office document in the list of attachments. (See Displaying List of Attachments in a Page.)
- View a Confluence page which has the Office document embedded in the page via the View File macro. (See View File Macro.)

Step 2. Open the Spreadsheet in your Office Application

To edit the spreadsheet in your Office application,
1. Move your mouse pointer to the top of the spreadsheet embedded in the Confluence page, until the hidden title bar appears.

   *Screenshot: The title bar showing 'spreadsheet.xls' above an embedded Excel spreadsheet*

   ![Displaying an Excel Spreadsheet](image)

   - **Task**
     - Monday: 11/3/08
     - Tuesday: 11/4/08
     - Wednesday: 11/5/08
     - Thursday: 11/6/08
     - Friday: 11/7/08
     - Saturday: 11/8/08
     - Sunday: 11/9/08
   - **Planning**: 8
   - **Design**: 10
   - **Development**: 18
   - **Testing**: 5
   - **Admin**: 1

   ![Add Labels](image)
   ![Add Comment](image)

2. Click the title bar above the embedded spreadsheet. A window will pop up, asking you to confirm that you want to open this document.

   *Screenshot: Confirmation window in Firefox*

   ![Warning!](image)

   - The following location is going to be opened on your computer:
     
     
     By the program:
     
     C:\Program Files\Microsoft Office\OFFICE11\EXCEL.EXE
     
     This poses a security risk. If you didn’t initiate this action or you don’t trust the source of the file, please click Cancel.

   ![File Download](image)

   - You are opening the following file:
     
     File name: spreadsheet.xls
     From: extranet.atlassian.com

   ![OK](image)  ![Cancel](image)
3. Click 'OK'. Now you may be asked to log in to your Confluence server.

```
Screenshot: Logging in to Confluence
```

4. Enter your Confluence username and password, then click 'OK'.
5. The Office spreadsheet will open in your Office application.
6. Make the necessary changes, then save the spreadsheet. It will be saved back into Confluence.

Troubleshooting

Problems? Please refer to our guide to the Office Connector limitations and known issues.

RELATED TOPICS

- Working with the Office Connector
  - Office Connector Prerequisites
  - Installing the Firefox Add-On for the Office Connector
  - Editing a Confluence Page in an Office Application
  - Importing an Office Document into Confluence
  - Displaying an Office Document in Confluence
  - Editing an Office Document from Confluence
  - Editing an Office Presentation from Confluence
  - Editing an Office Spreadsheet from Confluence

Configuring the Office Connector in the Confluence Administration Guide

Take me back to Confluence User Guide

Working with Bookmarks

Bookmarks will only be available if your Confluence administrator has enabled the Social Bookmarking plugin.

The Social Bookmarking plugin allows you to share bookmarks with your team. You can create a bookmark and save it in a Confluence space. To send the bookmark to other Confluence users, simply label it for their personal spaces or for public spaces. You can also subscribe to a bookmarks RSS feed.

A bookmark is a page which points to a website or other URL. The website or URL can be within or external to Confluence. The bookmark can also contain comments from the person who created the bookmark, telling you why the website is interesting.
Ask a colleague to bookmark interesting things for you while you're away

Going away, and don't want to monitor all your RSS feeds or watch the pages while you're on holiday?

- Ask a friend or a colleague to bookmark the news items and other sites that they think you should know about.
- When you get back, scan your bookmarks at your leisure. No worries that the important items will drop off your RSS feeds or clog your mailbox!

The plugin documentation gives an overview of the bookmark functionality. In addition, here are some detailed instructions:

- Adding a bookmark
- Adding a bookmark icon to your browser
- Viewing bookmarks
- Subscribing to a bookmarks feed
- Editing a bookmark
- Commenting on a bookmark
- Removing a bookmark
- Displaying bookmarks on a Confluence page

The .bookmarks page

You may notice that your space has a page called '.bookmarks'. This page is a container for all the bookmarks in the space. Do not delete or move this page, or you will lose all your bookmarks.

**Adding a bookmark**

The Social Bookmarking plugin allows you to share bookmarks with your team. You can create a bookmark and save it in a Confluence space. To send the bookmark to other Confluence users, simply label it for their personal spaces or for public spaces. You can also subscribe to a bookmarks RSS feed.

A bookmark is a page which points to a website or other URL. The website or URL can be within or external to Confluence. The bookmark can also contain comments from the person who created the bookmark, telling you why the website is interesting.

Permission to create bookmarks

You can save a bookmark in any space where you can create a page.
You can label a bookmark for any space, using the space key as described below.

You can add a bookmark via:

1. A bookmark icon on your browser toolbar. This is the quickest way.
2. A space's 'Add Bookmark' action.
3. The 'Add Bookmark' link on the 'Space Bookmarks' screen.

Where will the bookmark be stored? You can:

- Choose the space where the bookmark will be saved, and also
- optionally, send the bookmark to a colleague by labelling it for their personal space or label the bookmark for a global space.

To add a bookmark via the bookmark icon,
1. If you haven't already done so, add the bookmark icon to your browser toolbar.
2. Go to the website you're interested in.
3. Click the bookmark icon on your browser toolbar.

   ![Bookmarklet.png](https://www.example.com/bookmarklet.png) (Internet Explorer)

   ![BookmarkletFF.png](https://www.example.com/bookmarkletFF.png) (Firefox)
4. If you're not already logged in to Confluence, the Confluence login screen will appear. Log in as usual.
5. The 'Add Bookmark' screen will appear. Complete the information and save the bookmark, as described below.

To add a bookmark via a space's 'Add Bookmark' link,

1. Go to any Confluence page.
2. Click the 'Add Bookmark' link at the top right of the screen:

   ![Browse Space](https://www.example.com/browse-space.png) ![Add Page](https://www.example.com/add-page.png) ![Add News](https://www.example.com/add-news.png) ![Add Bookmark](https://www.example.com/add-bookmark.png)
3. The 'Add Bookmark' screen will appear. Complete the information and save the bookmark, as described below.

To add a bookmark via the 'Add Bookmark' link on the 'Space Bookmarks' screen,

1. Go to 'Browse Space' and click the 'Bookmarks' tab.
2. The 'Space Bookmarks' screen will appear. Click 'Add Bookmark' on the right of the screen.

   ![Add Bookmark](https://www.example.com/add-bookmark.png)
3. The 'Add Bookmark' screen will appear. Complete the information and save the bookmark, as described below.

To save, label and send the bookmark,

1. Add the bookmark using one of the methods described above.
2. The 'Add Bookmark' screen will appear, as shown below. Complete the following information:
   - **Title** – Enter a name for the bookmark. If you used the bookmark icon, the title will be set automatically.
     This title will appear on the 'Space Bookmarks' screen when you are viewing the bookmarks, to identify the bookmark.
     The bookmark is actually a page within the space. The bookmark title must be a unique page title within the space.
   - **URL** – Enter the URL of the website or other location which you find interesting or want to share with a colleague.
     If you used the bookmark icon on your browser toolbar, the URL will automatically be set to the website you were visiting.
   - **Space** – Choose the Confluence space where you want to save the bookmark. It will default to your personal space.
     The bookmark will appear on the 'Bookmarks in <spacename>' tab of this space. See Viewing Bookmarks.
   - **Description** – Enter any comments or message about this bookmark e.g. why you are sending the bookmark, or what is interesting about the website.
   - **Labels** – You can use the labels in two ways:
     - To send the bookmark to a particular Confluence space. Use 'for_spacekey' to send the bookmark to a global space, e.g. for_sales. Use 'for_~username' to send the bookmark to a Confluence user's personal space, e.g. for_~joebloggs.
     - To categorise the bookmark in the way we usually use labels.
3. Click the 'Save' button.
4. The bookmark will be saved in Confluence. You can view the bookmark on the 'Space Bookmarks' screen for the space you chose from the dropdown list. If you added a 'for_spacekey' label, the bookmark will also appear on the 'Space Bookmarks' screen for that space.
5. If you used the bookmark icon on your browser toolbar, you will be returned to the website you have just bookmarked.

Screenshot: Adding a bookmark
### Adding a Bookmark Icon to your Browser

The Social Bookmarking plugin allows you to share bookmarks with your team. You can create a bookmark and save it in a Confluence space. To send the bookmark to other Confluence users, simply label it for their personal spaces or for public spaces. You can also subscribe to a bookmarks RSS feed.

A bookmark is a page which points to a website or other URL. The website or URL can be within or external to Confluence. The bookmark can also contain comments from the person who created the bookmark, telling you why the website is interesting.

You can **add a bookmark icon on your browser toolbar.** This will make adding a bookmark quick and easy:

- When you want to create a bookmark pointing to a website, you don't have to leave the website. Just click the icon on your toolbar.
- The website title and URL will be automatically copied from the website to your bookmark.
- When you've finished adding the bookmark, you will be automatically returned to the website.

The bookmark icon will look something like this:

**Internet Explorer:**

![Bookmark in Confluence](image)

**Firefox:**

![Bookmark in Confluence](image)

There are two ways to add the icon to the browser toolbar:

- Drag the 'Bookmark in Confluence' link from the 'Space Bookmarks' page onto the browser toolbar. This method works for most browsers, including Firefox. Read the full instructions.
- Manually add the 'Bookmark in Confluence' link to your browser's 'Favorites - Links' folder. This method works for Internet Explorer 7. Read the full instructions.

You can change the bookmark name from 'Bookmark in Confluence' to something else, if you want to. Just use your browser's own functions for editing/organising bookmarks and bookmark properties.

### RELATED TOPICS

- Adding a bookmark
- Adding a Bookmark Icon to your Browser
- Editing or Commenting on a Bookmark
- Removing a Bookmark
- Subscribing to a Bookmarks RSS Feed
- Viewing Bookmarks
- Social Bookmarking Plugin
Adding a Bookmark to your Browser’s Favorites

When using bookmarks in Confluence, you will find it useful to put a bookmark icon on your browser toolbar. Read an overview of adding the icon to your toolbar.

This page tells you how to add the Confluence bookmark link to your ‘Links’ folder within your browser’s ‘Favorites’. This will ensure that the link and its icon appear on the ‘Links’ toolbar. We are using Internet Explorer 7 as an example browser.

To add the bookmarks link to your Links folder,

1. First make sure that your browser’s ‘Links’ toolbar is showing: In IE7, click ‘Tools’ in the browser menu bar, then select ‘Toolbars’ and put a check mark next to ‘Links’.
2. Go to ‘Browse Space’ for any Confluence space and click the ‘Bookmarks’ tab.
3. The ‘Space Bookmarks’ screen will appear. Right-click the ‘Bookmark in Confluence’ link on the right of the screen, and select ‘Add to Favorites’...
4. The ‘Add a Favorite’ window appears. Edit the ‘Name’ to something like ‘Bookmark in Confluence’.
5. Select ‘Links’ from the ‘Create in’ dropdown list.
6. Click the ‘Add’ button.
7. The bookmark icon appears in your browser’s ‘Links’ toolbar:

You can change the bookmark name from ‘Bookmark in Confluence’ to something else, if you want to. Just use your browser’s own functions for editing/organising bookmarks and bookmark properties.

Screenshot: Showing the Links toolbar in IE7

This is the Links toolbar (empty at the moment)

Make sure the Links toolbar is showing in your browser

Screenshot: Adding the link to Favorites Links in IE7
Drag a Bookmark Link to your Browser

When using bookmarks in Confluence, you will find it useful to put a bookmark icon on your browser toolbar. Read an overview of adding the icon to your toolbar.

This page tells you how to drag the bookmark link from Confluence to the browser toolbar, using Firefox as an example browser.

To drag the link onto your browser toolbar,

1. First make sure that your browser's 'Bookmarks Toolbar' is shown.
   In Firefox, click 'View' in the browser menu bar, then select 'Toolbars' and put a check mark next to 'Bookmarks Toolbar'.
2. Go to 'Browse Space' for any Confluence space and click the 'Bookmarks' tab.
3. The 'Space Bookmarks' screen will appear. Click the 'Bookmark in Confluence' link on the right of the screen, and drag it onto the browser's 'Bookmarks Toolbar'.
4. The bookmark icon looks something like this:

   ![Bookmark in Confluence](image)

You can change the bookmark name from 'Bookmark in Confluence' to something else, if you want to. Just use your browser's own functions for editing/organising bookmarks and bookmark properties.

Screenshot: Dragging the bookmark link to Firefox
RELATED TOPICS

- Adding a bookmark
- Adding a Bookmark Icon to your Browser
- Editing or Commenting on a Bookmark
- Removing a Bookmark
- Subscribing to a Bookmarks RSS Feed
- Viewing Bookmarks

- Social Bookmarking Plugin

Take me back to Confluence User Guide

Editing or Commenting on a Bookmark

Permissions

In order to edit a bookmark, you must have **'create page permissions** for the space in which the bookmark was saved. In order to comment on a bookmark, you must have **'create comments permissions** for the space in which the bookmark was saved.

You can edit or comment on a bookmark by going to either of the following spaces:

- The space in which the bookmark was saved.
- The space for which the bookmark was labelled (if the bookmark was labelled for a space).

To edit or comment on a bookmark,

1. Go to 'Browse Space' and click the 'Bookmarks' tab.
2. The 'Space Bookmarks' screen will appear. Click one of the following tabs:
   - 'Bookmarks in <space name>': to display all the bookmarks which have been saved in this space.
   - 'Links for <space name>': to display all the bookmarks which have been labelled for this space.
3. To edit a bookmark:
   - Click 'Edit' next to the bookmark title.
   - The 'Update Bookmark' screen appears. Edit the information then click the 'Save' button.
4. To comment on a bookmark, do one of the following:
   - Click 'Comments' under the bookmark on the 'Space Bookmarks' screen.
   - Or click 'View Bookmark Page' on the 'Space Bookmarks' screen, then click 'Add Comment' on the bookmark page.

Screenshot: Editing or commenting on a bookmark
Removing a Bookmark

Permission to remove a bookmark

In order to remove a bookmark, you must have 'remove page' permissions for the space in which the bookmark was saved.

You can remove a bookmark by going to either of the following spaces:

- The space in which the bookmark was saved.
- The space for which the bookmark was labelled (if the bookmark was labelled for a space).

When you remove a bookmark, it disappears from all spaces i.e. the space in which it was saved and any spaces for which it was labelled.

To remove a bookmark,

1. Go to 'Browse Space' and click the 'Bookmarks' tab.
2. The 'Space Bookmarks' screen will appear. Click one of the following tabs:
   - 'Bookmarks in <space name>' – to display all the bookmarks which have been saved in this space.
   - 'Links for <space name>' – to display all the bookmarks which have been labelled for this space.
3. Click 'Remove' next to the bookmark title.
4. A confirmation screen appears, showing you the number of incoming links to the bookmark page. Click 'nn incoming link(s)' to see more information about the links.
5. Click 'OK' on the confirmation screen to remove the bookmark.

Screenshot: Deleting a bookmark
Subscribing to a Bookmarks RSS Feed

The Social Bookmarking plugin allows you to share bookmarks with your team. You can create a bookmark and save it in a Confluence space. To send the bookmark to other Confluence users, simply label it for their personal spaces or for public spaces. You can also subscribe to a bookmarks RSS feed.

A bookmark is a page which points to a website or other URL. The website or URL can be within or external to Confluence. The bookmark can also contain comments from the person who created the bookmark, telling you why the website is interesting.

What is an RSS feed?
RSS is a format used by a number of organisations to share news. You can subscribe to an ‘RSS feed’ and then use an ‘RSS reader’ to view the information in the feed. A feed is a URL (web address) which supplies the news upon request. A reader is a program which displays the news for you. Your reader may be on a website, an addon to your browser, part of your email program, or a stand-alone program.

More information:
- Overview of RSS on Wikipedia.
- Working with RSS in Confluence

The bookmarks feed is in RSS2 format. There are two feeds in each space:

- A feed for the bookmarks saved in a particular space. This might be:
  - Your personal space, where you store all the bookmarks of interest to you, as well as the bookmarks you have sent to other people.
  - A global space, where you or other people store bookmarks relevant to that space.
- A feed for the bookmarks labelled for a particular space. This might be:
  - Your personal space, where you can see the bookmarks other people have sent to you.
  - A global space, where you or other people have sent bookmarks relevant to that space.

To subscribe to the bookmarks saved in a particular space,
1. Go to 'Browse' and select 'Bookmarks' from the dropdown list. The 'Space Bookmarks' screen will appear.
2. Click the 'Bookmarks in <space name>' link.
3. This will display all the bookmarks which have been saved in this space. Get your feed from the link labelled 'Bookmark RSS Feed'. There are a few ways to add the feed to your RSS reader:
   • Drag the link into your RSS reader.
   • Or right-click the link and copy the link location, then paste it into your RSS reader.
   • Or click the link to open the feed in your browser. Then copy the feed URL from the browser's address bar and paste it into your RSS reader.

To subscribe to the bookmarks labelled for a particular space,

1. Go to 'Browse' and select 'Bookmarks' from the dropdown list. The 'Space Bookmarks' screen will appear.
2. Click the 'Links for <space name>' link.
3. This will display all the bookmarks which have been labelled for this space. Get your feed from the link labelled 'Bookmark RSS Feed'. There are a few ways to add the feed to your RSS reader:
   • Drag the link into your RSS reader.
   • Or right-click the link and copy the link location, then paste it into your RSS reader.
   • Or click the link to open the feed in your browser. Then copy the feed URL from the browser's address bar and paste it into your RSS reader.

Screenshot : Subscribing to a bookmarks feed

**RELATED TOPICS**

- Adding a bookmark
- Adding a Bookmark Icon to your Browser
- Editing or Commenting on a Bookmark
- Removing a Bookmark
- Subscribing to a Bookmarks RSS Feed
- Viewing Bookmarks
- Social Bookmarking Plugin

Take me back to the Confluence User Guide.

**Viewing Bookmarks**

The **Social Bookmarking** plugin allows you to share bookmarks with your team. You can create a bookmark and save it in a Confluence space. To send the bookmark to other Confluence users, simply label it for their personal spaces or for public spaces. You can also subscribe to a bookmarks RSS feed.

A **bookmark** is a page which points to a website or other URL. The website or URL can be within or external to Confluence. The bookmark can also contain comments from the person who created the bookmark, telling you why the website is interesting.

This page tells you how to **view a list of bookmarks** in a space. If you want to include a list of macros on your Confluence page, use the **Bookmarks Macro**.

When viewing bookmarks, you can:

- View the bookmarks saved in a particular space. This might be:
• Your personal space, where you store all the bookmarks of interest to you, as well as the bookmarks you have sent to other people.
• A global space, where you or other people store bookmarks relevant to that space.
• View the bookmarks labelled for a particular space. This might be:
  • Your personal space, where you can see the bookmarks other people have sent to you.
  • A global space, where you or other people have sent bookmarks relevant to that space.
• Go to the bookmarked website or URL.

To view the bookmarks saved in a particular space,

1. Go to ‘Browse Space’ and click the ‘Bookmarks’ tab.
2. The ‘Space Bookmarks’ screen will appear. Click the ‘Bookmarks in <space name>’ tab.
3. This will display all the bookmarks which have been saved in this space, ordered by date with the most recent shown first. Click ‘View Bookmark Page’ if you want to open the Confluence page for this bookmark.

To view the bookmarks labelled for a particular space,

1. Go to ‘Browse Space’ and click the ‘Bookmarks’ tab.
2. The ‘Space Bookmarks’ screen will appear. Click the ‘Links for <space name>’ tab.
3. This will display all the bookmarks which have been labelled for this space, ordered by date with the most recent shown first. Click ‘View Bookmark Page’ if you want to open the Confluence page for this bookmark.

To go to the bookmarked website or URL,

1. Click the bookmark title. This is the bold, underlined name shown above the bookmark description on the ‘Space Bookmarks’ screen.
2. The website or other URL will open in your browser.

Screenshot: Viewing bookmarks

RELATED TOPICS

• Adding a bookmark
• Adding a Bookmark Icon to your Browser
• Editing or Commenting on a Bookmark
• Removing a Bookmark
• Subscribing to a Bookmarks RSS Feed
• Viewing Bookmarks
• Social Bookmarking Plugin
• Bookmarks Macro

Take me back to Confluence User Guide

Working with Macros

Macros perform programmatic functions within a page and can be used to generate complex content structures or dynamic content.
Macros allow you to add extra functionality or include dynamic content in a page. For example, the Attachments macro will list a page's attachments in the page itself, so that readers do not have to visit the Attachments tab.

### On this page:
- Including a Macro in your Page
  - Including Macros with the Macro Browser
  - Including Macros with the Confluence Editor
  - Macro Parameters
  - Case Sensitivity in Macro Parameters
- Macros Shipped with your Confluence Installation
- Information about Other Macros
- Writing your own Macros

#### Including a Macro in your Page

There are two ways to include a macro in your page. You can add macros using the visual Macro Browser, or by manually typing a macro command into the editor.

##### Including Macros with the Macro Browser

To insert a macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the macro you want, click 'Insert' to add it to your page.

##### Including Macros with the Confluence Editor

In the Confluence editor, a macro is simply a command wrapped inside curly braces {...}.

For instance, the Attachments Macro is written as:

```
{attachments}
```

#### Macro Parameters

Many macros allow you to include optional parameters to control the macro's output.

With the Attachments Macro, for instance, you have two optional parameters:

- To specify the file formats of the attachments displayed.
- To choose whether or not you want old versions of the attachments displayed.

These optional parameters are included within the curly braces, following a colon, like this:

```
{attachments:patterns=*.jpg}
```

When specifying more than one parameter within the same macro, use the pipe symbol (|) to separate one from the other, like this:

```
{attachments:old=true|patterns=*.jpg}
```

#### Case Sensitivity in Macro Parameters

Macro parameters are case sensitive. In most cases, the macro will expect its parameters to be in lower case. Make sure you follow the documentation for the specific macro and match the expected case, otherwise the parameter may be ignored.

For example, this code correctly has the parameter 'patterns' with a lower case 'p' as expected by the Attachments Macro:

```
{attachments:patterns=*.jpg}
```

This code will not work, because the parameter 'Patterns' has an upper case 'p', which the Attachments Macro will not recognise:
Invalid macro code:

```{attachments:Patterns=.*jpg}```

## Macros Shipped with your Confluence Installation

When you download your Confluence installation file, many macros are shipped with the download. Below is a list of the macros currently shipped with Confluence. Click a macro name for details of the usage, including optional parameters and examples.

<table>
<thead>
<tr>
<th>Macro Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachments Macro</td>
<td>Displays a list of attachments belonging to the current page.</td>
</tr>
<tr>
<td>Blog Posts Macro</td>
<td>Lists the most recent news items in the space.</td>
</tr>
<tr>
<td>Bookmarks Macro</td>
<td>Includes a list of bookmarks on a Confluence page.</td>
</tr>
<tr>
<td>Change-History Macro</td>
<td>Displays a history of updates made to a page.</td>
</tr>
<tr>
<td>Chart Macro</td>
<td>Displays a chart based on tabular data.</td>
</tr>
<tr>
<td>Cheese Macro</td>
<td>Displays the words &quot;I like cheese!&quot;</td>
</tr>
<tr>
<td>Children Display Macro</td>
<td>Displays the children and descendants of the current page.</td>
</tr>
<tr>
<td>Code Block Macro</td>
<td>Displays code in your document with the appropriate syntax highlighting.</td>
</tr>
<tr>
<td>Color Text Macro</td>
<td>Changes the colour of a block of text.</td>
</tr>
<tr>
<td>Column Macro</td>
<td>Used with the Section Macro. Defines columns within the page.</td>
</tr>
<tr>
<td>Content by Label Macro</td>
<td>Renders a list of content associated with specific labels.</td>
</tr>
<tr>
<td>Create Space Button Macro</td>
<td>Renders a create space button linked to the create space page.</td>
</tr>
<tr>
<td>Tasklist Macro</td>
<td>Displays a dynamic task list which can be modified in 'view' mode.</td>
</tr>
<tr>
<td>Edit in Word Link Macro</td>
<td>Displays an 'Edit in Word' icon on your page.</td>
</tr>
<tr>
<td>Excerpt Macro</td>
<td>Allows you to define a part of the page as the page's 'excerpt' which is then used by other macros to summarise a page's content.</td>
</tr>
<tr>
<td>Excerpt Include Macro</td>
<td>Allows you to display an excerpt from another page within the current page.</td>
</tr>
<tr>
<td>Favourite Pages Macro</td>
<td>Displays a list of your favourite pages.</td>
</tr>
<tr>
<td>Excerpt Include Macro</td>
<td>Includes one page's excerpt in another.</td>
</tr>
<tr>
<td>Gallery Macro</td>
<td>Forms a thumbnail gallery of all images attached to a page.</td>
</tr>
<tr>
<td>Global Reports Macro</td>
<td>Renders a list of links to global reports within a table.</td>
</tr>
<tr>
<td>HTML Macro</td>
<td>Renders your specified HTML code within the current page.</td>
</tr>
<tr>
<td>HTML Include Macro</td>
<td>Includes the content of an external HTML file into a Confluence page.</td>
</tr>
<tr>
<td>IM Presence Macro</td>
<td>Displays graphically when a contact is online.</td>
</tr>
<tr>
<td>Include Page Macro</td>
<td>Inserts the contents of the specified page into the current one.</td>
</tr>
<tr>
<td>Info Macro</td>
<td>Displays a block of text in a blue highlight box.</td>
</tr>
<tr>
<td>JIRA Issues Macro</td>
<td>Displays a list of JIRA issues in a page.</td>
</tr>
<tr>
<td>JIRA Portlet Macro</td>
<td>Displays a JIRA dashboard portlet in Confluence.</td>
</tr>
<tr>
<td>JUnit Report Macro</td>
<td>Display a summary of JUnit test results.</td>
</tr>
<tr>
<td>Livesearch Macro</td>
<td>Add a dynamic search box to a wiki page.</td>
</tr>
<tr>
<td>Loremipsum Macro</td>
<td>Display a few paragraphs of pseudo-Latin text.</td>
</tr>
<tr>
<td>Navmap Macro</td>
<td>Renders the list of pages associated with a specified label as a navigable map.</td>
</tr>
<tr>
<td>Noformat Macro</td>
<td>Displays a block of text in monospace font.</td>
</tr>
<tr>
<td>Nolink and nl Macros</td>
<td>Prevents the browser from automatically hyperlinking a URL.</td>
</tr>
</tbody>
</table>
### Note Macro
Displays a block of text in a yellow highlight box.

### Panel Macro
Displays a block of text within a fully customisable panel.

### Pagetree Macro
Displays a dynamic, hierarchical list of pages starting from a specified parent (root) page.

### Pagetree Search Macro
Adds a search box to your Confluence page and searches a hierarchy of pages starting from a specified parent (root) page.

### Recently Updated Macro
Displays a list of recently changed content (pages, news items, comments, etc).

### Recently Used Labels Macro
Lists labels most recently used in a specified scope (Global, Space, or Personal).

### Related Labels Macro
Lists labels frequently appearing on the same pages as the current page's labels.

### RSS Feed Macro
Displays the contents of an RSS feed.

### Search Macro
Searches Confluence, and includes the results in the page.

### Section Macro
Used with the Column Macro to define columns within the page.

### Space Details Macro
Includes the summary of a Confluence space in the page.

### Spaces List Macro
Displays a list of all spaces visible to the user.

### Tip Macro
Displays a block of text in a green highlight box.

### Userlister Macro
Displays a list of Confluence users, from an optional group.

### View File Macro
Embeds an Office document into your Confluence page.

### Warning Macro
Displays a block of text in a red highlight box.

### Web-Widget Macro
Same as the Widget macro.

### Welcome Message macro
Includes the Confluence site welcome message.

### Widget Macro
Displays videos, slide shows, twitter chats, documents and more, sourced from other web sites and displayed on your Confluence page.

### Information about Other Macros
Other macros are available as plugins or as user macros, and can be installed by your Confluence administrator.

Customers using Adaptavist macros or plugins might be interested in the [Adaptavist's Confluence user guide](#).

Some examples are:

- `{toc}` macro, provided by the [Table of Contents Plugin](#) - full documentation by CustomWare.
- `{float}` macro and others, provided by the [Composition plugin](#) - full documentation by CustomWare.

### Writing your own Macros

To learn how to write your own macro, take a look at the following documentation:

- User macros are simple template-like macros that allow you to create simple formatting macros using the Confluence web interface. Read more about [User Macros](#).
- The [Confluence Plugin Guide](#) tells you how to develop a plugin for Confluence.

### RELATED TOPICS

- [Confluence Notation Guide Overview](#)
- [Confluence Plugin Guide](#)
- [Plugin Index](#)
- [User Macros](#)

Take me back to the [Confluence User Guide](#).

### Anchor Macro

⚠️ The Anchor Macro is documented in [Working with Anchors](#).
Attachments Macro

The attachments macro is documented on Displaying List of Attachments in a Page.

Blog Posts Macro

The Blog Posts Macro allows you to display news items (blog posts) on a wiki page. Clicking on a title takes you to the news item. The blog posts macro will generate output like the screenshot below:

Screenshot: The Blog Posts Macro in Confluence

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples
  - Specify the number of news items you want displayed
  - Display short excerpts from each news item in the list
  - Display only the titles of the news item
  - Choose how far back in time Confluence should look for the news items
  - Filter items using labels
  - Filter items using spaces
  - Combine parameters to filter the news items
  - Sort the results

Usage with the Macro Browser

To insert the blog posts macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. TheMacro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Usage with the Wiki Markup Editor

Simply type the following into the Wiki Markup editor:

```
{blog-posts}
```

In the example below, we show the news items from a user's personal space on this Confluence site. (The person's username is ~mryall.)

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{blog-posts}</td>
<td></td>
</tr>
</tbody>
</table>
Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

<i>Note</i>: Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(author)</td>
<td>None</td>
<td>Filter the results by author. The macro will display only the news items which are written by the author(s) you specify here. You can specify one or more authors, separated by a comma.</td>
</tr>
<tr>
<td>Content Type to Display</td>
<td>entire</td>
<td>Available values:</td>
</tr>
<tr>
<td>(content)</td>
<td></td>
<td>- content=excerpts — Display short excerpts from each news item. After each excerpt, the words 'Read more...' will offer a link allowing the user to click through to the full news item, if the content is over 500 characters long.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- content=titles — Display a list of news items, showing titles only.</td>
</tr>
<tr>
<td>Restrict to these Labels</td>
<td>None</td>
<td>Filter the results by label. The macro will display only the news items which are tagged with the label(s) you specify here. You can specify one or more label values, separated by a comma or a space.</td>
</tr>
<tr>
<td>(label)</td>
<td></td>
<td>- To exclude content which matches a given label, put a minus sign (-) immediately in front of that label value. For example: If you specify a label value of -badpage you will get only content which is not labelled with 'badpage'.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- To indicate that the results must match a given label value, put a plus sign (+) immediately in front of that label value. For example: If you specify a label value of +superpage,+goodpage you will get only content which has at least two labels, being 'superpage' and 'goodpage'.</td>
</tr>
<tr>
<td>Restrict to these Labels</td>
<td>None</td>
<td>Exactly the same as label above.</td>
</tr>
<tr>
<td>(labels)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Number of News</td>
<td>15</td>
<td>Specify the maximum number of results to be displayed. Note that the results are sorted first, and then the maximum parameter is applied.</td>
</tr>
<tr>
<td>Items (max)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Number of News</td>
<td>15</td>
<td>Exactly the same as max above.</td>
</tr>
<tr>
<td>Items (maxResults)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reverse Sort (reverse)</td>
<td>false</td>
<td>Use this parameter in conjunction with the sort parameter described below. Set reverse=true to change the sort from ascending to descending order.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- this parameter is ignored if the sort parameter is not specified.</td>
</tr>
<tr>
<td><strong>Sort By</strong> (sort)</td>
<td><strong>Restrict to these spaces</strong> (space)</td>
<td><strong>Time Frame</strong> (time)</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td><em>creation</em></td>
<td>@self, i.e. the space which contains the page on which the macro is coded</td>
<td>no limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specify how the results should be sorted. To change the sort order from ascending to descending, use the `reverse` parameter described above.

1. If this parameter is not specified, the sort order defaults to descending order based on the creation (publish) date.

Values:
- `creation` — Sort by the date on which the content was added.
- `title` — Sort alphabetically by title.
- `modified` — Sort by the date on which the content was last updated.

This parameter allows you to filter content by space. The macro will display only the pages which belong to the space(s) you specify here.

You can specify one or more space keys, separated by a comma or a space.

- To exclude content in a specific space, put a minus sign (-) immediately in front of that space key. For example: If you specify a space key of `-BADSPACE` you will get only content which is not in the BADSPACE.
- To indicate that the results **must** come from a specific space, put a plus sign (+) immediately in front of that space key. For example: If you specify a space key of `+GOODSPACE` you will get only content in GOODSPACE. (Note that this is not particularly useful, because each content item belongs to one space only. If you put a plus sign next to one space key and list other space keys too, the other space keys will be ignored.)

Special values:
- `@self` — The current space.
- `@personal` — All personal spaces.
- `@global` — All global spaces.
- `@favorite` — The spaces you have marked as `favourite`.
- `@favourite` — The same as `@favorite` above.
- `@all` — All spaces in your Confluence site.
- `@` — The same as `@all` above.

2. When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`.

Exactly the same as `space` above.

Specify how far back in time Confluence should look for the news items to be displayed.

Available values:
- `m` — Minutes
- `h` — Hours
- `d` — Days
- `w` — Weeks

For example, `time=12h` would display those news items created in the last twelve hours, and `time=7d` would show news items created in the last seven days.

Examples

1. *Specify the number of news items you want displayed*

   The following code will display a maximum of five news items:

   ```
   {blog-posts:max=5}
   ```

2. *Display short excerpts from each news item in the list*

   ```
   {blog-posts:content=excerpts}
   ```

3. *Display only the titles of the news item*
4. Choose how far back in time Confluence should look for the news items

The following code will display all news items posted in the last twelve hours.

```
{blog-posts:time=12h}
```

The following code will display all news items posted in the last 2 weeks.

```
{blog-posts:time=2w}
```

5. Filter items using labels

The following code will display news items that contain the labels 'atlassian' or the label 'confluence' (or both):

```
{blog-posts:labels=atlassian,confluence}
```

The following code will display news items that contain the labels 'atlassian' and 'confluence' — each news item must be tagged with both labels:

```
{blog-posts:labels=+atlassian,+confluence}
```

6. Filter items using spaces

The following code will display items from the 'Marketing' space (space key is MKTG) and Joe Smith's personal space (space key is ~jsmith):

```
{blog-posts:spaces=MKTG,~jsmith}
```

7. Combine parameters to filter the news items

The following code will display the latest 10 items in the 'Marketing' space (space key is MKT) with the label 'logo'. The items will be displayed as a list of titles only:

```
{blog-posts:max=10|labels=logo|spaces=MKT|content=titles}
```

8. Sort the results

Use the code below to sort the list of items by date last modified, with the most recent at the top:

```
{blog-posts:sort=modified|reverse=true}
```

**RELATED TOPICS**

- Working with Macros
- Working with News Overview
- Take me back to the Confluence User Guide.

**Bookmarks Macro**

This page describes the **Bookmarks Macro**, provided by the Social Bookmarking plugin. Please refer to Working with Bookmarks for details of how to add, view and subscribe to bookmarks.

Use the bookmarks macro to include a list of bookmarks on a Confluence page. By default, the macro will display the bookmarks saved in the current space. The bookmarks macro renders information as shown in the screenshot below.

**Screenshot: Bookmarks Macro**
Usage with the Macro Browser

To insert the bookmarks macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you’ve found the bookmarks macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>{bookmarks}</code></td>
<td>Testing news</td>
</tr>
</tbody>
</table>

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Number of Bookmarks</td>
<td>15</td>
<td>The maximum number of bookmarks to display.</td>
</tr>
<tr>
<td>(max)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search these Spaces Only</td>
<td>Current</td>
<td>A list of spaces to search for, separated by commas. The macro will display the bookmarks saved in these spaces. Meta space names @all, @personal, @global can also be used.</td>
</tr>
<tr>
<td>(spaces)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feature</td>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Label(s)</td>
<td>None</td>
<td>A list of labels to search for, separated by commas. The macro will display the bookmarks which have these labels applied. If you specify multiple labels, the bookmarks need to match only one of the labels to be included.</td>
</tr>
<tr>
<td>Creator(s)</td>
<td>None</td>
<td>A list of usernames, separated by commas, specifying who created the bookmarks to be listed.</td>
</tr>
<tr>
<td>Sort By</td>
<td>creation</td>
<td>Specify the sort order of the bookmarks. Valid values: 'creation' = bookmark created date; 'creator' = username of bookmark author; 'title' = bookmark title.</td>
</tr>
<tr>
<td>Reverse Sort</td>
<td>false</td>
<td>'true' = reverse the sort order.</td>
</tr>
<tr>
<td>Show Bookmark Creators</td>
<td>true</td>
<td>Display the user who created the bookmark.</td>
</tr>
<tr>
<td>Show Bookmark Creation Dates</td>
<td>true</td>
<td>Display the date when the bookmark was created.</td>
</tr>
<tr>
<td>Show Bookmark Descriptions</td>
<td>true</td>
<td>Display the bookmark description.</td>
</tr>
<tr>
<td>Show Edit Links</td>
<td>true</td>
<td>If the current user has permission, show quick links to edit or remove the bookmark.</td>
</tr>
<tr>
<td>Show Bookmark's Labels</td>
<td>true</td>
<td>Display the bookmark's labels.</td>
</tr>
<tr>
<td>Show Bookmark List Heading</td>
<td>true</td>
<td>Display heading of the bookmark list (with the RSS feed link).</td>
</tr>
<tr>
<td>Show Space Where Bookmark is Saved</td>
<td>true</td>
<td>Display the space the bookmark is saved in.</td>
</tr>
<tr>
<td>Show Link to Actual Bookmark</td>
<td>true</td>
<td>Display a link to the actual bookmark page.</td>
</tr>
</tbody>
</table>

### Examples

**Specify the number of bookmarks you want displayed:**

```
{bookmarks:max=5}
```

**Specify the space(s) where the bookmarks are saved:**

The following markup will show the bookmarks in the personal space of user 'jbloggs' and in the 'sales' space.

```
{bookmarks:spaces=~jbloggs,sales}
```

**Specify the space(s) where the bookmarks are saved and the person who created the bookmarks:**

The following markup will show the bookmarks created by user 'jbloggs' in his personal space and in the 'sales' space.

```
{bookmarks:spaces=~jbloggs,sales|creators=jbloggs}
```

**Display only the bookmark titles:**

We have forced the line-breaks in this example. Your code should consist of a single line.

```
{bookmarks:showAuthor=false|showDate=false |
|showDescription=false|showEditLinks=false |
|showLabels=false|showListHeader=false |
|showSpace=false|showViewLink=false}
```
**Change-History Macro**

The **Change-History Macro** shows the history of updates made to a page — version number, author, date and comment. It displays this information inline, as shown in the following screenshot.

**Screenshot: The Change-History Macro in Confluence**

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Version (v. 3)</td>
<td>Apr 01, 2009 16:55</td>
<td>Conf Admin</td>
</tr>
<tr>
<td>v. 2</td>
<td>Apr 01, 2009 13:09</td>
<td>Conf Admin</td>
</tr>
<tr>
<td>v. 1</td>
<td>Apr 01, 2009 11:03</td>
<td>Conf Admin</td>
</tr>
</tbody>
</table>

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor

**Usage with the Macro Browser**

To insert the change-history macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the change-history macro, click 'Insert' to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>(change-history)</td>
<td></td>
</tr>
<tr>
<td>Version</td>
<td>Date Date</td>
</tr>
<tr>
<td>Current Version (v. 3)</td>
<td>Jun 01, 2009 07:43</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>v. 2</td>
<td>Apr 17, 2008 20:30</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>v. 1</td>
<td>Apr 17, 2008 20:28</td>
</tr>
</tbody>
</table>

There are no parameters for this macro.

**Chart Macro**

The **Chart Macro** allows you to display a chart based on tabular data. When entering the macro code, you will supply the data and choose the format of the chart.

The chart macro appears as shown in the following screenshot.

**Screenshot: The Chart Macro in Confluence**
Usage with the Macro Browser

To insert the chart macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.
4. Once you've found the chart macro, select a type of chart from the parameter settings (listed below).
5. You will also need to manually enter your chart data as a Wiki markup table into the 'body text' field, like so:

| produce| orange| lemon| grape| pear |
|week 1 |10| 20| 30| 40 |50|
|week 2 |100|200|300|400|500|

6. Click 'Preview' to check that your settings and data are correct.
7. Finally, click 'Insert' to add the chart to your page.

Usage with the Wiki Markup Editor.

Here is a simple example of a pie chart.
Here is a simple example of a bar chart.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>![chart:type=bar</td>
<td>title=Fish Sold]</td>
</tr>
<tr>
<td>Fish Type</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td></td>
</tr>
<tr>
<td>Herring</td>
<td>9,500 8,300</td>
</tr>
<tr>
<td>Salmon</td>
<td>2,900 4,200</td>
</tr>
<tr>
<td>Tuna</td>
<td>1,500 1,500</td>
</tr>
<tr>
<td>![chart]</td>
<td></td>
</tr>
</tbody>
</table>

**Parameters**

- **Chart Type Parameters**
- **Display Control Parameters**
- **Title and Label Customisation Parameters**
- **Data Specification Parameters**
- **Colour Customisation Parameters**
- **Axis Customisation Parameters**
- **Pie Chart Customisation Parameters**
- **Attachment Parameters**

**Chart Type Parameters**

These parameters determine what type of chart to display and the way the chart looks.
• **type** - The type of chart to display. Both standard charts and XY charts are supported. XY charts have numerical x and y axes. The x values may optionally be time based (see the `timeSeries` parameter). The following chart types are available:

**Standard charts**

- `pie` (default)
- `bar`
- `line`
- `area`

**XY plots**

- `xyArea`
- `xyBar`
- `xyLine`
- `xyStep`
- `xyStepArea`
- `scatter`
- `timeSeries`

**Other charts**

- `gantt` - beta

• **orientation** — A bar, line, or area chart will be displayed vertically (y axis is vertical) unless 'orientation=horizontal' is specified.
• **3D** — A pie, bar, or line chart will be shown in 3D if '3D=true' is specified.
• **stacked** — A bar or area chart will be shown with stacked values if 'stacked=true' is specified.
• **showShapes** — Shapes will be shown at each data point in a line chart unless showShapes=false.
• **opacity** — A percentage value between 0 (not visible) and 100 (non-transparent) that determines how opaque the foreground areas and bars are. Defaults are:
  • 75 percent for 3D charts
  • 50 percent for non-stacked area charts
  • 100 percent for all other charts

**Display Control Parameters**

- **width** — The width of the chart in pixels (default is '300').
- **height** — The height of the chart in pixels (default is '300').
- **dataDisplay** — Default is false to not display the rendered body of the macro (usually the data tables). When dataDisplay=true or dataDisplay=after, the data will be displayed after the chart. When dataDisplay=before, the data will be displayed before the chart.
- **imageFormat** — Default is png. Format of generated image. Valid formats are png and jpg. Other formats may be also be valid if installed on your server.

**Title and Label Customisation Parameters**

- **title** — The title of the chart.
- **subTitle** — A subtitle for the chart using a smaller font.
- **xLabel** — The label to use for the x (domain) axis.
- **yLabel** — The label to use for the y (range) axis.
- **legend** — A legend will be displayed unless 'legend=false' is specified.

**Data Specification Parameters**

The data for the chart is taken from tables found when the macro body is rendered. These options control how this data is interpreted. By default, numeric and date values are interpreted according to the Confluence global default language (locale) formats. If conversion fails, other languages defined to Confluence will be tried. Additional conversion options can be specified using the parameters below.

- **tables** — Comma separated list of table ids and/or table numbers (starting at 1) contained within the body of the macro that will be used as the data for the chart. Defaults to all first level tables. If data tables are embedded in other tables, then table selection will be required. This occurs when more complex formatting is done (for example using section and column macros). See [Macros know to cause problems](#).
- **columns** — Comma separated list of column labels and/or column titles and/or column numbers for tables used for chart data. This applies to all tables processed. Defaults to all columns. Columns are enumerated starting at 1. Column label is the text for the column in the header row. Column title is the (html) title attribute for the column in the header row.
- **dataOrientation** — The data tables will be interpreted as columns (horizontally) representing domain and x values unless 'dataOrientation=vertical'.
- **timeSeries** — If 'true', the x values in an XY plot will be treated as time series data and so will be converted according date formats.
- **dateFormat** — For time series data, the date format allows for additional customization of the conversion of data to date values. By default, the Confluence language defined date formats will be used. If a dateFormat is specified, it will be the first format used to interpret date values. Specify a format that matches the format of the time series data. See [simple date format](#).
- **timePeriod** — Specify the time period for time series data. Default is 'Day'. This defines the granularity of how the data is interpreted. Valid values are: Day, Hour, Millisecond, Minute, Month, Quarter, Second, Week, Year.
- **language** — If provided, the language and country specification will be used to create additional number and date formats to be used for data conversion. This specification will be used before the default languages automatically used. Valid values are 2 character **ISO 639-1** alpha-2 codes.
- **country** — Used in combination with the language parameter. Valid values are 2 character **ISO 3166 codes**.
- **forgive** — Default is true to try to convert numeric and date values that do not totally match any of the default or user specified
formats. Specify forgive=false to enforce strict data format. Data format errors will cause the chart to not be produced.

**Colour Customisation Parameters**

See the notation guide for details on how to specify colours.

- **bgColor** — Colour (default is 'white') to use as the background of the chart.
- **borderColor** — Colour of a border around the chart. Default is to not show a border.
- **colors** — Comma separated list of colours used to customise category, sections, and series colours.

**Axis Customisation Parameters**

Depending on the chart type, the range and domain axis may be customised. These values are automatically generated based on the data but can be overridden by specifying one or more more of these parameters.

- **rangeAxisLowerBound** — range axis lower bound.
- **rangeAxisUpperBound** — range axis upper bound
- **rangeAxisTickUnit** — range axis units between axis tick marks
- **rangeAxisLabelAngle** — angle for the range axis label in degrees
- **domainAxisLowerBound** — domain axis lower bound. For a date axis, this value must be expressed in the date format specified by the dateFormat parameter. (Only used in XY Plots, standard charts will have no effect)
- **domainAxisUpperBound** — domain axis upper bound. For a date axis, this value must be expressed in the date format specified by the dateFormat parameter. (Only used in XY Plots, standard charts will have no effect)
- **domainAxisTickUnit** — domain axis units between axis tick marks. For a date axis, this value represents a count of the units specified in the timePeriod parameter. The time period unit can be overridden by specifying a trailing character: y for years, M for months, d for days, h for hours, m for minutes, s for seconds, u - milliseconds. (Only used in XY Plots, standard charts will have no effect)
- **domainAxisLabelAngle** — angle for the domain axis label in degrees. (Only used in XY Plots, standard charts will have no effect)
- **categoryLabelPosition** — allows axis label text position for categories to be customised.
  - up45 - 45 degrees going upward
  - up90 - 90 degrees going upward
  - down45 - 45 degrees going downward
  - down90 - 90 degrees going downward
- **dateTickMarkPosition** — placement of the date tick mark.
  - start (default) — tick mark is at the start of the date period.
  - middle — tick mark is in the middle of the date period.
  - end — tick mark is at the end of the date period.

**Pie Chart Customisation Parameters**

- **pieSectionLabel** — Format for how pie section labels are displayed. The default is to show only the pie section key value. The format is a string with special replacement variables:
  - %0% is replaced by the pie section key.
  - %1% is replaced by the pie section numeric value.
  - %2% is replaced by the pie section percent value.
  - Example 1: "%0% = %1%" would display something like "Independent = 20"
  - Example 2: "%0% (%2%)" would display something like "Independent (20%)"
- **pieSectionExplode** — Comma separated list of pie keys that are to be shown exploded. Defaults to no exploded sections. Note: requires jFreeChart version 1.0.3 or higher.

**Attachment Parameters**

These are advanced options that can be used for chart versioning, to enable automation and to improve performance. Use these options carefully! Normally, the chart image is regenerated each time the page is displayed. These options allow for the generated image to be saved as an attachment and have subsequent access re-use the attachment. This can be useful especially when combined with the Cache Plugin to improve performance. Depending on the options chosen, chart images can be versioned for historical purposes.

- **attachment** — Chart image will be saved in a attachment. This advanced capability is for automation or use in combination with the cache macro. For attachment to be used, the user must be authorised to add attachments to the page specified.
  - attachmentName.png — The chart is saved as an attachment to the current page.
  - space:page*attachmentName.png — The chart is saved as an attachment to the space indicated.
- **attachmentVersion** — Defines the the versioning mechanism for saved charts.
  - new (default) Creates new version of the attachment.
  - replace — Replaces all previous versions of the chart. To replace an existing attachment, the user must be authorized to remove attachments for the page specified.
  - keep — Only saves a new attachment if an existing export of the same name does not exist. An existing attachment will not be changed or updated.
- **attachmentComment** — Comment used for a saved chart attachment.
- **thumbnail** — Default is false. If true, the chart image attachment will be shown as a thumbnail.
Macros known to be allowed in the body of the chart macro

- Include Page Macro — to include a page containing data tables
- SQL Plugin — to generate chart data using SQL select statements, note multiple sql macros are allowed in the same body.
- CSV Macro — to provide chart data from comma separated values (csv)
- Java Scripting Plugin — to generate chart data using Java code
- Excel Plugin — to provide chart data from an Excel spreadsheet
- Layout Macros — the section and column macros can be used starting with version 1.7

Macros known to cause problem if included in the body of the chart macro

If you use the section, column, scrollbar, or other advanced formatting macros in the body of the chart macro, then you must use the tables parameter to identify the tables that are to be used for chart data. This is due to the fact that these macros produce tables causing the data tables to be lower level sub-tables. The easiest approach is to assign an id to the data table and then explicitly list it in the tables parameter of the chart macro. The id of the table can be set using various macros that have Common table capabilities.

Examples

Time Series Chart

What you need to type

```markdown
{chart:type=timeSeries|dateFormat=MM/yyyy|timePeriod=Month|
dataOrientation=vertical|rangeAxisLowerBound=0|domainaxiserotateticklabel=true}

<table>
<thead>
<tr>
<th>Month</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2005</td>
<td>31.8</td>
</tr>
<tr>
<td>2/2005</td>
<td>41.8</td>
</tr>
<tr>
<td>3/2005</td>
<td>51.3</td>
</tr>
<tr>
<td>4/2005</td>
<td>33.8</td>
</tr>
<tr>
<td>5/2005</td>
<td>27.6</td>
</tr>
<tr>
<td>6/2005</td>
<td>49.8</td>
</tr>
<tr>
<td>7/2005</td>
<td>51.9</td>
</tr>
<tr>
<td>8/2005</td>
<td>77.3</td>
</tr>
<tr>
<td>9/2005</td>
<td>73.8</td>
</tr>
<tr>
<td>10/2005</td>
<td>97.6</td>
</tr>
<tr>
<td>11/2005</td>
<td>101.2</td>
</tr>
<tr>
<td>12/2005</td>
<td>113.7</td>
</tr>
</tbody>
</table>
```

What you will get

![Time Series Chart](chart)

XY Line Chart

What you need to type

```markdown
{chart}

<table>
<thead>
<tr>
<th>Month</th>
<th>Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2005</td>
<td>41.1</td>
</tr>
<tr>
<td>2/2005</td>
<td>43.8</td>
</tr>
<tr>
<td>3/2005</td>
<td>45.3</td>
</tr>
<tr>
<td>4/2005</td>
<td>45.0</td>
</tr>
<tr>
<td>5/2005</td>
<td>44.6</td>
</tr>
<tr>
<td>6/2005</td>
<td>43.8</td>
</tr>
<tr>
<td>7/2005</td>
<td>51.8</td>
</tr>
<tr>
<td>8/2005</td>
<td>52.3</td>
</tr>
<tr>
<td>9/2005</td>
<td>53.8</td>
</tr>
<tr>
<td>10/2005</td>
<td>55.6</td>
</tr>
<tr>
<td>11/2005</td>
<td>61.2</td>
</tr>
<tr>
<td>12/2005</td>
<td>63.7</td>
</tr>
</tbody>
</table>
```

What you will get

![XY Line Chart](chart)
What you need to type

{chart:type=xyline}

<table>
<thead>
<tr>
<th></th>
<th>12</th>
<th>14</th>
<th>23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>41.1</td>
<td>31.8</td>
<td>12.4</td>
</tr>
<tr>
<td>Expense</td>
<td>31.1</td>
<td>41.8</td>
<td>43.6</td>
</tr>
</tbody>
</table>

{chart}

What you will get

XY Bar Chart

What you need to type

{chart:type=xybar|opacity=60}

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>41.1</td>
<td>31.8</td>
<td>12.4</td>
</tr>
<tr>
<td>Expense</td>
<td>31.1</td>
<td>41.8</td>
<td>43.6</td>
</tr>
</tbody>
</table>

{chart}

What you will get

XY Area Chart

What you need to type
What you will get

Area Charts

What you need to type

<table>
<thead>
<tr>
<th>Satisfaction</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfied</td>
<td>20</td>
<td>23</td>
<td>34</td>
</tr>
<tr>
<td>Satisfied</td>
<td>40</td>
<td>34</td>
<td>23</td>
</tr>
<tr>
<td>Disatisfied</td>
<td>25</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>15</td>
<td>17</td>
<td>18</td>
</tr>
</tbody>
</table>
### Cheese Macro

The **Cheese Macro** simply displays the words "I like cheese!"

You can use this macro to test the Confluence macro functionality.

#### Usage with the Macro Browser

To insert the cheese macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the cheese macro, click 'insert' to add it to your page.
Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{cheese}</td>
<td>I like cheese!</td>
</tr>
</tbody>
</table>

There are no parameters for this macro.

**RELATED TOPICS**

Working with Macros

Take me back to the Confluence User Guide.

**Children Display Macro**

Use the **Children Display Macro** to display the child pages of a page and the descendents (childrens' children). Links to the children are displayed as in the screenshot below:

*Screenshot: The Children Display Macro in Confluence*

Confluence allows you to collect and archive mail within each space individually, all emails pertaining to a particular project on Confluence alongside it in the same

- Adding a Mail Account
- Deleting Mail
- Fetching Mail
- Importing Mail
- Linking to Mail
- Managing Mail Accounts
- Restoring Mail
- Viewing Mail

Note that only pages to which you have 'View' permission will be displayed.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples

**Usage with the Macro Browser**

To insert the children display macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the children display macro, click 'insert' to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{children:all=true}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Child Page 1</td>
</tr>
<tr>
<td></td>
<td>• Grandchild</td>
</tr>
<tr>
<td></td>
<td>• Child Page 2</td>
</tr>
</tbody>
</table>

**Parameters**
Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Show Descendants <em>(all)</em></td>
<td>false</td>
<td>Display all descendents</td>
</tr>
<tr>
<td>Parent Page <em>(page)</em></td>
<td>current</td>
<td>Specify which page to display children for in a current space or in a different space. If the page parameter is ?, then the macro will list all the current space’s top-level pages i.e. those without parents. If the page parameter is a space key followed by a colon (e.g children:page=DOC:), then the top-level pages of that space will be listed.</td>
</tr>
<tr>
<td>Depth of Descendants <em>(depth)</em></td>
<td>none</td>
<td>Specify the depth of descendents to display. If your (children) macro includes both ‘all=true’ and ‘depth=X’ parameter-value combinations where X is a number, ‘all=true’ takes precedence. If an ‘all=false’ and ‘depth=X’ parameter-value combination is used, ‘depth=X’ takes precedence.</td>
</tr>
<tr>
<td>Number of Children <em>(first)</em></td>
<td>none</td>
<td>Restrict the number of children displayed at the top level</td>
</tr>
<tr>
<td>Heading Style <em>(style)</em></td>
<td>none</td>
<td>Specify the style in which descendents are displayed</td>
</tr>
<tr>
<td>Include Excerpts <em>(excerpt)</em></td>
<td>false</td>
<td>Display the child pages’ excerpts, if they exist</td>
</tr>
<tr>
<td>Sort Children By <em>(sort=creation)</em> <em>(sort=title)</em> <em>(sort=modified)</em></td>
<td>Manual if manually ordered, otherwise alphabetical</td>
<td>The ‘sort’ attribute is an optional attribute that allows you to configure how the children are sorted. Specify ‘creation’ to sort by content creation date, ‘title’ to sort alphabetically on title and ‘modified’ to sort of last modification date.</td>
</tr>
<tr>
<td>Reverse Sort <em>(reverse)</em></td>
<td>false</td>
<td>Use this parameter in conjunction with the ‘sort’ parameter described above. Set ‘reverse=true’ to change the sort from ascending to descending order.</td>
</tr>
</tbody>
</table>

**Examples**

1. Display all descendents of the page

   `{children:all=true}`

2a. Specify which page to display children for

   `{children:page=page-name}`

2b. Specify which page in a different space to display children for

   `{children:space-key:page-name}`

3. Specify the depth of descendents

   `{children:depth=2}`

4. Restrict the number of children displayed at the top level
5. Specify the style in which descendents are displayed
Choose from heading levels h1 to h6.

{children:depth=1|style=h3}

6. Display the child pages’ excerpts, if they exist

{children:depth=2|excerpt=true}

7. Sort children by modification date

{children:sort-creation|reverse=true}

**RELATED TOPICS**

Working with Page Families
Working with Macros

Take me back to the Confluence User Guide.

**Child Page 1**

**Grandchild**

**Child Page 2**

This page is used to test the \{children\} macro.

**RELATED TOPICS**

Children Display Macro

**Code Block Macro**

The **Code Block Macro** allows you to display source code in your document with the appropriate syntax highlighting. The code block displays on the page as shown below.

```java
public static void main(String[] args) {
    System.out.println("Hello World!");
}
```

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples

**Usage with the Macro Browser**

To insert the code block macro into a page using the Macro Browser,
1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.

2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.

3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the code block macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>```code`</td>
<td></td>
</tr>
<tr>
<td>public static void main(String[] args)  { ```code`</td>
<td></td>
</tr>
</tbody>
</table>

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

⚠️ Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol ( : ).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Code Language</strong></td>
<td>Java</td>
<td>Specifies the programming language for syntax highlighting. The default language is <strong>Java</strong> but you can specify JavaScript, ActionScript, XML, HTML or SQL instead.</td>
</tr>
</tbody>
</table>

Be aware that any white space contained between the `{code}` commands is not manipulated in any way by the Code Block Macro. This is to provide the writer with flexibility over code indentation.

⚠️ All the optional parameters of the `{panel}` macro are valid for the `{code}` macro as well.

Examples

**Example 1: Java**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>{code}</code></td>
<td></td>
</tr>
<tr>
<td>public String getFoo() { ```code`</td>
<td></td>
</tr>
<tr>
<td></td>
<td>return foo;</td>
</tr>
<tr>
<td>}</td>
<td>} ```code`</td>
</tr>
</tbody>
</table>

**Example 2: XML**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>
Example 3: HTML

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>(code:HTML)</td>
<td>(code)</td>
</tr>
<tr>
<td>&lt;HTML&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;HEAD&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;meta http-equiv=Content-Type content=&quot;text/html;&quot;&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;TITLE&gt;xmldemo_002&lt;/TITLE&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;/HEAD&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;/HTML&gt;</td>
<td></td>
</tr>
<tr>
<td>(code)</td>
<td></td>
</tr>
</tbody>
</table>

RELATED TOPICS

Working with Macros
Adaptavist User Guide

Take me back to the Confluence User Guide.

Color Text Macro

You can use the Color Text Macro to change the colour of a block of text. Specify the colours by name or by hexadecimal value. Coloured text appears just like the line below.

Orange coloured text renders like this.

See more information about web colours.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples

Usage with the Macro Browser

To insert the color text macro into a page using the Macro Browser,
1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the color text macro, click 'Insert' to add it to your page.

⚠️ Exact colour results may look different depending on the browser in use.

Usage with the Wiki Markup Editor

```
{color:mycolour} ... text ... {color}
```

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color Name/Hexadecimal Code (color)</td>
<td>Yes</td>
<td>None</td>
<td>Colour of text. You can use names for common colours or use the hexadecimal code for a more specific colour.</td>
</tr>
</tbody>
</table>

Examples

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{color:red}red{color}</td>
<td>red</td>
</tr>
<tr>
<td>{color:green}green{color}</td>
<td>green</td>
</tr>
<tr>
<td>{color:blue}blue{color}</td>
<td>blue</td>
</tr>
<tr>
<td>{color:orange}orange{color}</td>
<td>orange</td>
</tr>
<tr>
<td>{color:yellow}yellow{color}</td>
<td>yellow</td>
</tr>
<tr>
<td>{color:purple}purple{color}</td>
<td>purple</td>
</tr>
<tr>
<td>{color:purple}violet{color}</td>
<td>violet</td>
</tr>
<tr>
<td>{color:#FF0000}#FF0000{color}</td>
<td>#FF0000</td>
</tr>
<tr>
<td>{color:#00FF00}#00FF00{color}</td>
<td>#00FF00</td>
</tr>
<tr>
<td>{color:#0000FF}#0000FF{color}</td>
<td>#0000FF</td>
</tr>
</tbody>
</table>

Hexadecimal colour codes use a leading hash symbol (#) then two digits for the red, green and blue values respectively. For example, the brightest red colour is shown by the code FF0000, where the first two digits (FF) are the maximum value for red (255 in decimal notation), while the green and blue digit pairs both represent the absolute minimum values at 00. Similarly, the brightest green is shown by the code 00FF00, and the brightest blue is shown by the code 0000FF. Other codes are a combination of the three, leading to the full range of colour. [More information](#)

Column Macro

The **column macro** allows you to define a set of columns across a page.

A set of columns must be defined within a vertical 'section' of a page. Hence, to display a set of columns correctly across a page, each column in the set must be inserted within a single pair of **section macro** elements. Furthermore, each column in the set is defined as a pair of column macro elements.

Once you have defined your set of columns within a pair of section macro elements, you can add content to each column by inserting your content within the body of each pair of column macro elements.
The following example in Wiki Markup, shows a set of two columns defined across a section of a page,

```
{section:border=true}
{column}The content of column one is entered within the body of the first set of column elements here.
{column}The content of column two is entered within the body of the second set of column elements here.
{section}
```

which renders on the page like this:

<table>
<thead>
<tr>
<th>Content of Column One</th>
<th>Content of Column Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>The content of column one is entered within the body of the first set of column elements here.</td>
<td>The content of column two is entered within the body of the second set of column elements here.</td>
</tr>
</tbody>
</table>

On this page:
- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

**Usage with the Macro Browser**

To insert the column macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the column macro, click 'Insert' to add it to your page.

⚠️ One or more column macros must be inserted within a section macro to be displayed correctly on a page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>{section}</code> <code>{column}</code> Column one text goes here <code>{column}</code> Column two text goes here <code>{section}</code></td>
<td>Column one text goes here Column two text goes here</td>
</tr>
</tbody>
</table>

**Parameters**

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

⚠️ Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column Width</td>
<td>no</td>
<td>100% of the page width, divided equally by the number of (column)s in the (section)</td>
<td>The width of the column. Can be specified either in pixels (e.g. <code>{column:width=400px}</code>) or as a percentage of the available page width (e.g. <code>{column:width=50%}</code>)</td>
</tr>
</tbody>
</table>

1412
Content by User Macro

The **Content by User macro** generates a tabulated list of all current content items created by a specified Confluence user throughout a Confluence installation. These items include any existing page, comment or space created by a specified user. The table generated is divided into three columns and each item listed within it is hyperlinked directly to its corresponding page, page’s comment or space’s dashboard.

---

**Please note the following points:**

- Each item in the table is represented by the name of its page or space.
- Each comment item contains two hyperlinked components separated by a greater-than sign (>). The first hyperlink leads to the page itself while the second leads directly to the comment further down the page. The second hyperlink is represented by the name of the page, preceded by Re:

---

**Screenshot: Content by User Macro segment**

---

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

**Usage with the Macro Browser**

**To insert the Content by User macro into a page using the Macro Browser,**

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you’ve found the Content by User macro, click ‘Insert’ to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>Segment of what you will get</th>
</tr>
</thead>
</table>
Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required in Wiki Markup?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username</td>
<td>yes</td>
<td>none</td>
<td>Lists all current content items created by this Confluence user (referenced in this macro by their username).</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

Working with Macros

Take me back to the Confluence User Guide.

**Contributors Macro**

The **Contributors macro** displays a list of Confluence users who have made a contribution of some type to a page. It can also be used to list watchers of this page.

The scope of this macro can be extended to include the immediate children or descendants of the specified page. The list of contributors can be based on people who have:

- authored or edited the page(s)
- contributed comments or added labels to the page(s), or
- are simply watching the page(s)

**Screenshot: Example list of Contributors**

- Sarah Macdon
- Edwin Dawson
- Giles Gaskell
- Rosie Jamison
- Andrew Lui
- Charles Miller

In this example, the **Display Format** parameter has been set to **list**. For more information about this macro's parameters, refer to the
Parameters section below.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

Usage with the Macro Browser

To insert the contributors macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you’ve found the contributors macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

```
{contributors:include=TYPE}
```

Where TYPE refers to the type of contribution made to the current page (and optionally its descendants), or watches of these pages.

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required in Wiki Markup?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
</table>
| Contribution Type          | no                       | authors | The type of contribution made to a page (and optionally its descendant pages), or watches of these pages. This parameter defines which people appear in the contributors list and the statistics used to order them in the list. The allowable contribution types include:
  - authors - people who authored or have edited the page(s)
  - comments - people who have added comments to the page(s)
  - labels - people who have added labels to the page(s)
  - watches - people who are watching the page(s).
  One or more contribution types can be used. |
| Sort By (order)            | no                       | count   | The criteria used to sort the contributors in the list, based on the chosen **Contribution Type**. The allowable sort criteria include:
  - count - sorts people based on the total number of edits, or comments or labels added to the page(s)
  - name - sorts people in alphabetical order
  - update - sorts people based on when they last edited, or added a comment or label to the page(s). |
| Reverse Sort (reverse)     | no                       | false   | Reverses the order of contributors in the list, sorted by the chosen **Sort By** criterion. Used only in conjunction with the **Sort By** parameter. |
| Maximum Number of Contributors (limit) | no | no limit | Restricts the number of contributors in the list to the value specified. If no number is specified, no restriction is applied. |
| Display Format (mode)      | no                       | inline  | Displays the contributors as a comma-separated line of names *(Inline)* or as a bullet-point list *(list)*. |
Show Anonymous Contributions? (showAnonymous) | no | false | Includes people who have made anonymous contributions to a page, in the list of contributors.
---
Show Count? (showCount) | no | false | Indicate the number of times each person in the list made a contribution, based on the chosen Contribution Type.
---
Show Last Contribution Time? (showLastTime) | no | false | Indicates the last time each person in the list made a contribution, based on the chosen Contribution Type.
---
Page Name (page) | no | current | The page from which to base the contributors list and its statistics. If no Page Name and Space(s) are specified, the current page is assumed.
---
Label(s) (labels) | no | none | Restricts list of contributors to those who created these labels from the specified page(s). Separate each label with a comma.
---
Space(s) (spaces) | no | current | Specify the space key of the Confluence space which contains the specified Page Name or alternatively, specify a scope of spaces to search. Space keys are case-sensitive. This parameter also takes special values, including:
  - @global — All global spaces.
  - @personal — All personal spaces.
  - @all — All spaces in your Confluence site.

You can specify one or more space keys or special values, each of which must be separated by a comma.

If no Page Name and Label(s) are specified, all pages from the specified set of spaces are included.
---
Content Type (contentType) | no | both pages and blog posts | Used to restrict page types to either pages (pages) or blog posts (blogposts). If no value is specified in the Macro Browser, both pages and blog posts are included.
---
Blog Post Date (publishDate) | no | none | Specify the publish date for a blog post. The date format required is: YYYY/MM/DD.
---
Include Page Hierarchy (scope) | no | specified page only | Includes either the immediate children or all descendants of the specified page. If no value is indicated in the Macro Browser, only the specified page is included.
---
Show Selected Pages (showPages) | no | false | Shows a list of pages returned immediately above the list of contributors.
---
Custom "None Found" Message (noneFoundMessage) | no | default "none found" message | When no contributors are found, override the default message displayed by the macro, with this one.

**RELATED TOPICS**

Contributors Summary Macro  
Working with Macros

Take me back to the Confluence User Guide.

**Contributors Summary Macro**

The **Contributors Summary macro** displays a table of contribution-based statistics for a set of pages. These statistics can be grouped according to individual pages or individual contributors.

The default scope of this macro covers an individual page, but this can be extended to include the immediate children or descendants of a specified page. The statistics cover the following types of contributions:

- edits to the page(s)
- comments added to the page(s)
- labels added to the page(s)
- people watching the page(s)

A simple example of the Contributors macro is shown in the block below, which lists statistics on the number of times each contributor has
edited, added comments and added labels to this page.

Screenshot: Example Contributors Summary table of statistics

<table>
<thead>
<tr>
<th>User</th>
<th>Edits</th>
<th>Comments</th>
<th>Labels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarah Maddox</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Edwin Dawson</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Giles Gaskell</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rosie Jameson</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Andrew Lui</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Charles Miller</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Andrew Prentice</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

In this example, all default parameter settings are used. For more information about this macro's parameters, refer to the Parameters section below.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

Usage with the Macro Browser

To insert the contributors summary macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the contributors summary macro, click 'Insert' to add it to your page.

Usage with the Wiki Markup Editor

{contributors-summary:groupby=TYPE}

Where TYPE refers to the criterion used for grouping statistics associated with the current page (and optionally its descendants). This criteria can be either contributor- or page-based.

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required in Wiki Markup?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group By</td>
<td>no</td>
<td>contributors</td>
<td>Specify if the table should group contribution-based statistics by contributor or page.</td>
</tr>
</tbody>
</table>
| Columns to Display (columns) | no | edits, comments and labels | The columns that should appear in the table. The statistics or type of information presented is based on the Group By parameter (above). The allowable types of contributions include:

- `edits` — number of times the contributor has edited the page(s) or number of edits made to the page.
- `edited` — list of pages edited by the contributor or list of contributors who have edited the page.
- `comments` — number of times the contributor has added comments to the page(s) or number of comments on the page.
- `commented` — list of pages to which the contributor has added comments or list of contributors who have commented on the page.
- `labels` — number of times the contributor has added labels to the page(s) or number of labels on the page.
- `labeled` — list of pages to which the contributor has added labels or list of contributors who have added a label to the page.
- `labellist` — list of labels either added by the contributor or on the page.
- `watches` — number of pages being watched by the contributor/person or number of contributors/people watching the page.
- `watching` — list of pages being watched by the contributor/person or list of contributors/people watching the page.
- `lastupdate` — the last time a contributor made an update or the page was last updated. Valid updates can include edit, comment or label modifications to a page.

One or more columns can be used.

| Sort By (order) | no | count | The criteria used for sorting items in the table. The items sorted are based on the Group By parameter (above). The allowable sort criteria include:

- `edits` — sorts items in the table based on the total number of edits made either by a contributor or to a page.
- `name` — sorts items in the table in alphabetical order, either by contributor or page name.
- `editTime` — sorts items in the table based on when the contributor last edited a page (or a specified set of pages) or when the page was last edited.
- `update` — sorts items in the table based on when the contributor last made any contribution to a page (or a specified set of pages) or when the page last had a contribution made to it.

| Reverse Sort (reverse) | no | false | Reverses the order of items in the table, sorted by the chosen Sort By criterion. (Used only in conjunction with the Sort By parameter.)

| Maximum Number of Contributors (limit) | no | no limit | Restricts the number of items in the table to the value specified. If no number is specified, no restriction is applied.

| Show Anonymous Contributions? (showAnonymous) | no | false | Includes individuals who have made anonymous contributions to a page, in the tabulated statistics.

| Page Name (page) | no | current | The page from which to calculate the contribution-based statistics. If no Page Name and Space(s) are specified, the current page is assumed.

| Label(s) (labels) | no | none | Restrict the contribution-based statistics to these labels only. Separate each label with a comma.

| Space(s) (spaces) | no | current | Specify the space key of the Confluence space which contains the specified page name or alternatively, specify a scope of spaces to search. Space keys are case-sensitive.

This parameter also takes special values, including:

- `@global` — All global spaces.
- `@personal` — All personal spaces.
- `@all` — All spaces in your Confluence site.

You can specify one or more space keys or special values, each of which must be separated by a comma.

If no Page Name and Label(s) are specified, all pages from the specified set of spaces are included.
### Content Type

**contentType**

No both pages and blog posts

Used to restrict page types to either pages (**pages**) or blog posts (**blogposts**). If no value is specified in the Macro Browser, both pages and blog posts are included.

### Blog Post Date

**publishDate**

No none

Specify the publish date for a blog post. The date format required is: YYYY/MM/DD.

### Include Page Hierarchy

**scope**

No specified page only

Includes either the immediate children or all descendants of the specified page. If no value is indicated in the Macro Browser, only the specified page is included.

---

**RELATED TOPICS**

Contributors Macro

Working with Macros

Take me back to the Confluence User Guide.

### Create Space Button Macro

The **Create Space Button Macro** renders a create space icon that links to the 'create space' page. The icon appears as rendered below.

*Screenshot: The Create Space Button in Confluence*

⚠️ To display this icon, you require 'Create Space' permission which is assigned by a site administrator from the Administration Console. See Security or contact your site administrator for more information.

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Example: Specify the size of the icon displayed

**Usage with the Macro Browser**

To insert the create space button macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the create space button macro, click 'insert' to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>{create-space-button}</code></td>
<td><img src="icon.png" alt="Create Space Button Icon" /></td>
</tr>
</tbody>
</table>

**Parameters**

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

⚠️ Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol ( : ).

---

1419
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Icon Size</td>
<td>small</td>
<td>Specify whether to use small or large icon.</td>
</tr>
<tr>
<td>(height)</td>
<td>natural size of icon (1:1 pixel ratio)</td>
<td>Stretches or shrinks the height of the icon to the number of pixels specified.</td>
</tr>
<tr>
<td>(width)</td>
<td>natural size of icon (1:1 pixel ratio)</td>
<td>Stretches or shrinks the width of the icon to the number of pixels specified.</td>
</tr>
</tbody>
</table>

**Example: Specify the size of the icon displayed**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{create-space-button:size=small}</td>
<td><img src="image" alt="icon" /></td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- Setting up a New Global Space
- Working with Macros

Take me back to the Confluence User Guide.

**Documentation Link Macro**

The **Documentation Link** macro generates a customisable text link to a page on [http://confluence.atlassian.com/](http://confluence.atlassian.com/).

This macro accepts a ‘relative link’ value and automatically prefixes this value with the URL:

- [http://confluence.atlassian.com/](http://confluence.atlassian.com/)

Hence, if you used the link value display/DOC/Working+with+Macros, the resulting URL is:

- [http://confluence.atlassian.com/display/DOC/Working+with+Macros](http://confluence.atlassian.com/display/DOC/Working+with+Macros)

Documentation Links are generated against the contents of this macro’s body text, allowing you to customise the text of this link.

For example, if you view this page’s wiki markup, you will see that this link uses the Documentation Link macro and that it leads back to the parent of this page in the Confluence ‘DOC’ space.

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

**Usage with the Macro Browser**

To insert the Documentation Link macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click ‘insert’ to put the macro into the page.

Once you've found the Documentation Link macro and have added the required parameter values, click 'insert' to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>Example of what you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{doc:display/DOC/Working+with+Macros}this link(doc)</td>
<td>this link</td>
</tr>
</tbody>
</table>

**Parameters**

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.
Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required in Wiki Markup?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Link</td>
<td>yes</td>
<td>none</td>
<td>The relative link (that is, the URL portion after <a href="http://confluence.atlassian.com/">http://confluence.atlassian.com/</a>) that leads to the required page on <a href="http://confluence.atlassian.com/">http://confluence.atlassian.com/</a>.</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

Working with Macros

Take me back to the Confluence User Guide.

**Edit in Word Link Macro**

The **Edit in Word Link Macro** allows you to display an 'Edit in Word' icon on the page, like the following image: ![Edit in Word Link Macro](image)

When a user clicks the icon, Confluence will start the 'Edit in Word' feature of the **Office Connector**. This will launch Microsoft Word as an editor for the page content.

The edit in Word link macro was created specifically for use with the **Adaptavist Theme Builder**. You may find the macro useful for themes which do not supply the 'Edit in Word' option in the Confluence 'Tools' menu.

The edit in Word link macro is just one way that Confluence can interact with Microsoft Office documents. For an overview of all Office Connector features, please refer to Working with the Office Connector.

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Troubleshooting

**Usage with the Macro Browser**

To insert the edit in Word link macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon ![Macro Browser icon](icon) on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you’ve found the edit in Word link macro, click ‘insert’ to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{editinwordlink}</td>
<td><img src="image" alt="Edit in Word Link Macro" /></td>
</tr>
</tbody>
</table>

When your page is in view mode, it will show an icon like the one displayed above. When a user clicks the icon, Confluence will call the **Office Connector** to allow the page to be edited in the user's Office application. For more information, see Editing a Confluence Page in an Office Application.

**Parameters**

This macro accepts no parameters.

**Troubleshooting**

Problems? Please refer to our guide to the **Office Connector limitations and known issues**.

**RELATED TOPICS**
Excerpt Include Macro

The Excerpt Include macro is used to display content from one page in another.

To use this macro, the excerpt must have been defined using the Excerpt Macro and both pages must exist in the same space.

The excerpt appears as shown below:

<table>
<thead>
<tr>
<th>Excerpt Macro</th>
</tr>
</thead>
<tbody>
<tr>
<td>A short summary of this page</td>
</tr>
</tbody>
</table>

For this example, we are taking content from a page called 'Excerpt Macro', where the excerpt tags have already been placed. The title of the page is shown at the top of the panel and the text between the remote excerpt tags is rendered as the body of the text.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples

Usage with the Macro Browser

To insert the excerpt include macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the excerpt include macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{excerpt-include:Excerpt Macro}</td>
<td>Excerpt Macro</td>
</tr>
<tr>
<td></td>
<td>A short summary of this page</td>
</tr>
</tbody>
</table>

For this example, we are taking content from a page called 'Excerpt Macro', where the excerpt tags have already been placed.

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (·).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>nopanel (nopanel)</td>
<td>false</td>
<td>Controls whether the square panel border around the excerpt should be removed. By default, the square panel is always shown.</td>
</tr>
</tbody>
</table>

Examples

Basic example
The following code renders an excerpt from this page with default settings:

```
{excerpt-include:Excerpt Macro}
```

The excerpt appears as shown below:

<table>
<thead>
<tr>
<th>Excerpt Macro</th>
</tr>
</thead>
<tbody>
<tr>
<td>A short summary of this page</td>
</tr>
</tbody>
</table>

Removing the square panel around the excerpt

By default, the excerpt is displayed within a panel. A value of "nopanel=true" displays the excerpt without the panel.

```
{excerpt-include:Excerpt Macro|nopanel=true}
```

The excerpt then appears as shown below:

A short summary of this page

**RELATED TOPICS**

Excerpt Macro

Working with Macros

Take me back to the Confluence User Guide.

**Excerpt Macro**

The Excerpt Macro is used to mark a part of a page's content for re-use. By itself, the excerpt macro does not change the display of a page. However, defining an excerpt enables other macros such as excerpt-include and blog-posts macros to display the specified content elsewhere.

ℹ️ You can only have one excerpt for a page.

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

**Usage with the Macro Browser**

To insert the excerpt macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the excerpt macro, click 'Insert' to add it to your page.

**Usage with the Wiki Markup Editor**

```
{excerpt}A short summary of this page{excerpt}
```

**Parameters**

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

ℹ️ Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).
### Favourite Pages Macro

Use the **Favourite Pages Macro** to display a list of your favourite pages.

The favourite pages macro appears as in the following screenshot.

**Screenshot: The Favourite Pages Macro in Confluence**

---

#### Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>hidden</td>
<td>false</td>
<td>Controls whether the text between the excerpt tags will appear on that page when users read it.</td>
</tr>
</tbody>
</table>

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{favpages}</td>
<td>Favourite Pages</td>
</tr>
</tbody>
</table>

There are currently no pages on your favourites list. You can add pages to this list by clicking 🌟 on the top right of the page.

---

**Parameters**

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.
Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(<code>maxResults</code>)</td>
<td>5</td>
<td>Specifies the maximum number of results to be displayed.</td>
</tr>
</tbody>
</table>

### Examples

**Specify the maximum number of results to be displayed**

In this example, we limit the number of results to one only.

```
{favpages:maxResults=1}
```

### Flowchart Macro

The Flowchart Macro creates diagrams composed of shapes joined by lines using the GraphViz language. This language is extremely versatile and powerful, but you can start with a really simple example as shown below, and then gradually improve your knowledge and create more advanced diagrams easily.

#### The Flowchart Macro requires the Graphviz Plugin

To use the **Flowchart Macro**, you will need to install the Graphviz plugin onto your Confluence site. This plugin is not shipped with Confluence by default, and is not officially supported by Atlassian.

- Please read more about supported and unsupported plugins.
- You can find more information about the Graphviz plugin on the plugin documentation page.

#### Usage

1. Edit the page.
2. Switch to the Wiki Markup editor.
3. Insert two `{flowchart}` commands.
4. Between those two commands, insert a textual representation of the diagram, using the GraphViz description language.

#### Examples

These are some very basic examples of what you can achieve easily. For more advanced layouts and formatting, please refer to the resources below.

<table>
<thead>
<tr>
<th>Macro Call</th>
<th>Macro Output</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>{flowchart}</code></td>
<td>Parameters → Diagram</td>
</tr>
<tr>
<td>Parameters → Diagram</td>
<td></td>
</tr>
<tr>
<td><code>{flowchart}</code></td>
<td>Parameters → Diagram</td>
</tr>
<tr>
<td>Parameters → Diagram</td>
<td></td>
</tr>
</tbody>
</table>

Take me back to the Confluence User Guide.
(flowchart)
main -> parse -> execute
main -> init
main -> cleanup
execute -> make_string
execute -> printf
init -> make_string
main -> printf
execute -> compare
(flowchart)
GraphViz Resources

GraphViz is a powerful way of describing diagrams of any kind, using just text. There is no graphical editor, so this may not be the tool of choice for the occasional user. But if you would like to visualise your ideas regularly it is well worth reading more about the language. Have a look at the following resources on the GraphViz website, to learn more than what can be explained on this overview page.

- Gallery Of Example Diagrams
- Online Documentation
- Downloadable Introduction to GraphViz (PDF format)

RELATED TOPICS

Working with Macros

Gallery Macro

The Gallery Macro displays a gallery of thumbnail images in a table, based on the images attached to a Confluence page. When viewing the
page, a user can click a thumbnail image to zoom into the full-size image and then view the images as a slide show.

For more information about how your readers will view the gallery, please refer to Viewing Images as a Slide Show. See below for instructions on how to add the gallery macro to your page.

The gallery macro appears as in the screenshot below.

**Screenshot: The Gallery Macro in Confluence**

```
Some office photos, and a waterfall
```

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
  - Some office photos, and a waterfall
- Parameters
- Examples
  - Basic Usage, Specifying Number of Table Columns
  - Excluding an Image
  - Specifying the Images to be Included
  - Specifying a Page Name
  - Sorting the Images by File Name
  - Sorting the Images to Show Most-Recently-Modified First

**Usage with the Macro Browser**

To insert the gallery macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the gallery macro, click 'insert' to add it to your page.

**Usage with the Wiki Markup Editor**

Include the following markup in your page, replacing the title with your own:

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>{gallery:title=Some office photos, and a waterfall}</code></td>
<td><code>Some office photos, and a waterfall</code></td>
</tr>
</tbody>
</table>
Some office photos, and a waterfall

Here’s an office photo

Here is the waterfall photo

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

The full list of parameters is shown in the following table.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
</table>
### Gallery Title

**title**

Specify a title for your gallery.

### Number of Columns

**columns**

Specify the number of columns for your table.

### Images to Exclude

**exclude**

No exclusions i.e. include all the pictures on the page.

The gallery will ignore any pictures specified by `exclude=picture file name` i.e. they will not be included in the gallery. You can specify more than one picture, separated by commas. Example: `exclude=my picture.png,my picture2.gif`

### Include these Images Only

**include**

Include all the pictures on the page.

If you specifically include one or more pictures, the gallery will show only those pictures. Format is `include=picture file name`. You can specify more than one picture, separated by commas. Example: `include=my picture.png,my picture2.gif`

### Use Images in these Pages

**page**

If no page is specified, the gallery displays the images attached to the page containing the macro. Specify the title of the page which contains the images you want displayed. If the page is in the same space as the page containing the macro, use the format `page=My Page`. To specify a page in a different space, use `page=SPACEKEY:My Page Name`, such as `page=DOC:Gallery Macro`

### Reverse Sort

**reverseSort**

Nothing, i.e. sort order is ascending

Used in conjunction with `sort` parameter above. Use `reverseSort` to reverse the sort order, from ascending to descending.

### Sort Images By

**sort**

None i.e. the sort order is unspecified and therefore unpredictable.

Specify an attribute to sort the images by that attribute. Sort order is ascending, unless you specify the `reverseSort` parameter (see below). Options are:

- `name` – file name.
- `comment` – comment linked to the attached file.
- `date` – date/time last modified.
- `size` – size of the attached file.

---

If the actual name of an attachment file or page contains a comma, you can refer to it in the `exclude`, `include`, or `page` parameters above by enclosing it in single or double quotes, for example "this,that.jpg", theother.png.

### Considerations for using the gallery macro

- The images shown in the gallery are taken from the files attached to the Confluence page. You can also specify a different page where the attachments are located. For information about attaching images to a page, see [Attaching Files to a Page](#).
- The comments below the images are drawn from the comments on the attachments. For information about adding comments to attachments, see [Attaching Files to a Page](#).
- By default, the gallery will include all the images attached to the page. You can also exclude or include images using parameters as described below.
- Only the following file formats are supported: `gif`, `png`, `jpeg`. The `bmp` format is not supported.
- You can sort your images into a particular order — see details below.
- You can specify a title for the gallery and also configure how many columns you want for the table in which your images are displayed. See below for details of the parameters to use.
- Read the rest of this page for more information.

### Examples

#### Basic Usage, Specifying Number of Table Columns

```markdown
{gallery:title=Some office photos, and a waterfall|columns=3}
```

#### Excluding an Image

```markdown
{gallery:title=Some office photos, without the waterfall|exclude=waterfall.jpg}
```

#### Specifying the Images to be Included

The macro code below will show only two images: 'office1.jpg' and 'waterfall.jpg'.

```markdown
{gallery:title=One office photo, and a waterfall|include=office1.jpg,waterfall.jpg}
```
Specifying a Page Name

By default, the images shown in the gallery are taken from the files attached to the Confluence page which contains the macro. You can also specify a different page where the attachments are located. For information about attaching images to a page, see Attaching Files to a Page.

The macro code below expects that the images are attached to a page called 'Gallery of Pictures', in the same space as the page containing the macro.

```
{gallery:title=Some office photos, and a waterfall|page=Gallery of Pictures}
```

Below, we specify a page in a different space.

```
{gallery:title=Some office photos, and a waterfall|page=DOC:Gallery of Pictures}
```

Combining the `page` and the `include` parameters, the code below will show only the two images specified, where the images are held as attachments on a different page.

```
{gallery:title=One office photo, and a waterfall|page=Gallery of Pictures|include=office1.jpg,waterfall.jpg}
```

Sorting the Images by File Name

```
{gallery:title=Some office photos, and a waterfall|sort=name}
```

Sorting the Images to Show Most-Recently-Modified First

```
{gallery:title=Some office photos, and a waterfall|sort=date|reverseSort}
```

RELATED TOPICS

Viewing Images as a Slide Show
Displaying an Image
Displaying a Thumbnail Image
Attaching Files to a Page
Editing Attachment Details
Working with Macros

Global Reports Macro

The Global Reports Macro renders a list of links to global reports.

This includes a list of all orphaned pages in the site, a list of all undefined links in the site and RSS feeds for new pages and news items.

The global reports macro appears as shown in the screenshot below.

Screenshot: The Global Reports Macro in Confluence

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples
Usage with the Macro Browser

To insert the global reports macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the global reports macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>{global-reports}</code></td>
<td>Global Reports</td>
</tr>
<tr>
<td></td>
<td>New or updated pages since your last login.</td>
</tr>
<tr>
<td></td>
<td>Find all pages that aren't linked from anywhere.</td>
</tr>
<tr>
<td></td>
<td>Find all undefined pages.</td>
</tr>
<tr>
<td></td>
<td>RSS Feed for new pages and blogs.</td>
</tr>
</tbody>
</table>

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Width of Table</strong> (width)</td>
<td>99%</td>
<td>Specifies the width of the table in which the links are displayed.</td>
</tr>
</tbody>
</table>

Examples

Specify the width of the table in which the links are displayed

```
{global-reports : width=50%}
```

By default, the table width is set to 99%.

**RELATED TOPICS**

- Subscribing to RSS Feeds within Confluence
- Working with Macros
- Take me back to the Confluence User Guide.

**HTML Include Macro**

The **HTML Include** macro allows you to include the contents of an external HTML file into a Confluence page.

**CAUTION: Including unknown HTML inside a webpage is dangerous.**
HTML can contain active scripting components. This means that it would be possible for a malicious attacker to present a user of your site with script that their web browser would believe came from you. Such code could be used, for example, to steal a user's authentication cookie and give the attacker their Confluence login password.
Usage

To embed an external page, type the following Wiki Markup code:

```html-include:url=http://www.example.com
```

Troubleshooting

- The HTML Include macro will only be available if it has been enabled by your Confluence administrator. Also, your Confluence Administrator can define a whitelist of trusted URLs. You will see an error message on the Confluence page, if the included URL is not in the whitelist.
- You can only use the HTML include macro for pages with absolute links. If you use the macro to include an HTML page that has relative links, navigating those links in the wiki results in a 'Page Not Found' error. See CONF-6567.

**RELATED TOPICS**

- HTML Macro
- Working with Macros
- Configuring a URL Whitelist

Take me back to Confluence User Guide

**HTML Macro**

The HTML macro allows you to use HTML code within a Confluence page.

Note that the HTML macro will only be available if it has been enabled by your System Administrator.

**Usage**

(html) ... code ... (html)

**Example**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>(html)&lt;a href=&quot;http://www.atlassian.com&quot;&gt;Click here&lt;/a&gt;(html)</td>
<td>Click here.</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- HTML Plugin (has better security than the HTML macro)
- HTML Include Macro (embeds remote HTML or pages)
- Working with Macros
- Enabling HTML macros

Take me back to Confluence User Guide

**IM Presence Macro**

The IM Presence Macro indicates graphically when a contact is signed into an Instant Messaging (IM) service. The IM presence macro appears as a small icon on the page, like this image: ![Online Now](https://example.com) - Online Now

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
  - RELATED TOPICS

**Usage with the Macro Browser**

To insert the IM presence macro into a page using the Macro Browser,
1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the IM presence macro, enter values for 'User ID/Screen Name' and select the service from the drop-down list. Finally, click 'Insert' to add the macro to your page.

Usage with the Wiki Markup Editor

The following instant messaging services are supported:
- AOL Instant Messenger (AIM)
- Google Talk (GTalk)
- IBM Lotus Sametime (Sametime)
- ICQ
- Skype
  - Skypeme (a status mode for Skype)
- Wildfire (also known as OpenFire)
- Yahoo! Messenger (YIM).

### Yahoo! Presence Macro

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{yahoo:myYahooId}</td>
<td>Online Now</td>
</tr>
<tr>
<td>{yahoo:myYahooId}</td>
<td>Not online</td>
</tr>
</tbody>
</table>

### AIM Presence Macro

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{aim:myScreenName}</td>
<td>Online</td>
</tr>
<tr>
<td>{aim:myScreenName}</td>
<td>Offline</td>
</tr>
</tbody>
</table>

### ICQ Presence Macro

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{ icq:icqnumber}</td>
<td>Online</td>
</tr>
<tr>
<td>{ icq:icqnumber}</td>
<td>Offline</td>
</tr>
</tbody>
</table>

### Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

- Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>aim (aim)</td>
<td>None</td>
<td>AOL Instant Messenger: Specify the user's Screen Name.</td>
</tr>
<tr>
<td>gtalk (gtalk)</td>
<td>None</td>
<td>Google Talk: Specify the user's Google account name.</td>
</tr>
<tr>
<td>icq (icq)</td>
<td>None</td>
<td>ICQ: Specify the user's ICQ number.</td>
</tr>
</tbody>
</table>
### Confluence 3.0 Documentation

<table>
<thead>
<tr>
<th>User ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>msn</td>
<td>None</td>
</tr>
<tr>
<td>sametime</td>
<td>None</td>
</tr>
<tr>
<td>skype</td>
<td>None</td>
</tr>
<tr>
<td>skypeme</td>
<td>None</td>
</tr>
<tr>
<td>wildfire</td>
<td>None</td>
</tr>
<tr>
<td>yahoo</td>
<td>None</td>
</tr>
<tr>
<td>Show User ID</td>
<td>None</td>
</tr>
</tbody>
</table>

### RELATED TOPICS

**Working with Macros**

Take me back to the Confluence User Guide.

### Include Page Macro

The Include Page Macro allows you to display the contents of one Confluence page in another.

To display part of a page rather than include the whole page, use the Excerpt Macro and the Excerpt Include Macro.

To display a page's contents, you require 'View' permission for that page. This is assigned by a space administrator from the Space Administration screens. See Space Permissions or contact your Confluence space administrator for more information.

If the name of the included page is changed after you have written the macro, the page name does not change automatically in the macro. In the event of that happening, you will need to change the page name manually in the macro parameters.

### On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Example

#### Usage with the Macro Browser

To insert the include page macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the include page macro, click 'insert' to add it to your page.

### Usage with the Wiki Markup Editor

Where 'Sample Include Page' is the title of the page whose contents you want to display:

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>

1435
Start of sample page content
End of sample page content

### Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

> Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Page to Include</strong></td>
<td>None</td>
<td>This is the name of the Confluence page you want to include in the current page. If the page you wish to include is located in another space, precede the name of the page with the space key value and ensure that the two values are separated by a colon. For example, <strong>DOC:Include Page Macro</strong>.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The space key value is case-sensitive.</td>
</tr>
</tbody>
</table>

Once the desired page is set, there are no further parameters for this macro.

### Example

**To display contents of a page located in another space**

Use the following code, where '**DS**' is the spacekey of the other space and 'Confluence Overview' is the name of the page you want to display.

```
{include:DS:Confluence Overview}
```

> You can include pages from personal spaces using **~username** as the space key.

### RELATED TOPICS

- Embed only part of an internal page
- Embed an external page
- Working with Macros

Take me back to the Confluence User Guide.

## Sample Include Page

Start of sample page content

End of sample page content

### Info Macro

The **Info macro** allows you to highlight helpful information on a Confluence page.

It creates a blue coloured box surrounding your text as shown below.

> **Info Macro Example**
> This text is rendered inside the info macro.
On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

Usage with the Macro Browser

To insert the info macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the info macro, click 'Insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{info}Confluence is the best wiki ever.{info}</td>
<td>Confluence is the best wiki ever.</td>
</tr>
<tr>
<td>{info:title=Did you know?}Confluence is the best wiki ever.{info}</td>
<td>Did you know? Confluence is the best wiki ever.</td>
</tr>
</tbody>
</table>

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional Title</td>
<td>no</td>
<td>none</td>
<td>The title of the information box. If specified, the title text will be displayed in bold next to the icon.</td>
</tr>
<tr>
<td><strong>title</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Show Information Icon</td>
<td>no</td>
<td>true</td>
<td>If &quot;false&quot;, the icon will not be displayed.</td>
</tr>
<tr>
<td><strong>icon</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RELATED TOPICS

Working with Macros

Take me back to the Confluence User Guide.

JIRA Issues Macro

JIRA is the issue tracking and project management system supplied by Atlassian. The Jira Issues macro allows you to display a list of issues from a JIRA site within a page in Confluence.

In other words, if you have your own JIRA site, your Confluence page can show a list of issues from your JIRA project. You can also show a list of issues from any JIRA site to which you and your readers have access.

*Screenshot: Example of JIRA Issues shown on a Confluence page*
On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Displaying a List of JIRA Issues on a Confluence Page
- Parameters
- Issues Displayed a Page at a Time
- Example
- Displaying Issues which have Restricted Viewing
- Troubleshooting

Usage with the Macro Browser

To insert the JIRA issues macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the JIRA issues macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

The basic syntax is:

```
{jiraissues:url=<URL of your JIRA XML view>}
```

Displaying a List of JIRA Issues on a Confluence Page
Step 1 — Obtain the URL of the Issue Filter

1. Log in to your JIRA system.
2. Go to the 'Issues' screen and create a new filter. Do not modify an existing filter.
3. Set up your search parameters and use 'View' to check the issues returned.
4. Once the filter is finished, go to the Filter's 'View' tab/section in the top-left area of the JIRA interface.
5. Copy the XML link. To do this, follow the appropriate steps below:
   a. If you are using JIRA 4.0.x or later:
      - Click the 'Views' menu, right-click the 'XML' item and copy the XML link.
   b. If you are using JIRA 3.13.x or earlier:
      a. Locate the 'Current View' links section (see example below) and find the 'XML' link.
      b. Copy the 'XML' link to your clipboard.

Step 2 — Embed the Issue Filter URL onto your Confluence Page

1. Log in to your Confluence system.
2. Edit the page where you wish to display the list of JIRA issues.
3. Type the following text into a new line at the appropriate location:

```
{jrissues:url=CONTENT}
```
4. Replace "CONTENT" with the JIRA filter URL from your clipboard.
5. Customise the macro output by adding optional parameters. See below.
6. Save the Confluence page.

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

The JIRA Issues macro allows the following parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anonymous Retrieval</strong></td>
<td>no</td>
<td>false</td>
<td>If this parameter is set to 'true', JIRA will return only the issues which allow unrestricted viewing i.e. the issues which are visible to anonymous viewers, as determined by JIRA’s viewing restrictions. If this parameter is omitted or set to 'false', then the results depend on how your administrator has configured the communication between JIRA and Confluence. By default, Confluence will show only the JIRA issues which the user is authorised to view. See more details below.</td>
</tr>
<tr>
<td><strong>(anonymous)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(baseurl)</strong></td>
<td>no</td>
<td></td>
<td>The value of the ‘url’ parameter</td>
</tr>
<tr>
<td><strong>JIRA Field Columns to Display</strong></td>
<td>no</td>
<td></td>
<td>By default, the following columns are shown:</td>
</tr>
<tr>
<td><strong>(columns)</strong></td>
<td></td>
<td></td>
<td>- type</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- key</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- summary</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- assignee</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- reporter</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- priority</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- status</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- resolution</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- created</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- updated</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- due</td>
</tr>
<tr>
<td><strong>Display Total Numbers Only</strong></td>
<td>no</td>
<td>false</td>
<td>If this parameter is set to 'true', the issue list will show the number of issues in JIRA. The count will be linked to your JIRA site.</td>
</tr>
<tr>
<td><strong>(count)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cache</strong></td>
<td>no</td>
<td>on</td>
<td>The macro maintains a cache of the issues which result from the JIRA query. If the ‘cache’ parameter is set to ‘off’, the relevant part of the cache is cleared each time the macro is reloaded. (The value ‘false’ also works and has the same effect as ‘off’.)</td>
</tr>
<tr>
<td><strong>(cache)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Height</strong></td>
<td>no</td>
<td>480</td>
<td>The height in pixels of the table displaying the JIRA issues. Note that this height specification is ignored in the following situations:</td>
</tr>
<tr>
<td><strong>(height)</strong></td>
<td></td>
<td></td>
<td>- If you set the ‘renderMode’ parameter (see below) to ‘static’.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- When the JIRA issues are displayed in a PDF or Word document, in an email message or in an RSS feed.</td>
</tr>
<tr>
<td><strong>(renderMode)</strong></td>
<td>no</td>
<td></td>
<td>By default, the JIRA Issues macro offers a dynamic display with the following features:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Click the column headers to sort the output.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Drag and drop the columns into a different order.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Temporarily remove a column from the display.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- View a page of issues at a time, for faster response times.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Set the ‘renderMode’ parameter to ‘static’ if you want to disable the dynamic display features.</td>
</tr>
<tr>
<td><strong>Title</strong></td>
<td>no</td>
<td>JIRA Issues</td>
<td>You can customise the title text at the top of the JIRA issues table with this parameter. For instance, setting the title to ‘Bugs-to-fix’ will replace the default ‘JIRA Issues’ text. This can help provide more context to the list of issues displayed.</td>
</tr>
</tbody>
</table>


## URL (url)

<table>
<thead>
<tr>
<th>parameter</th>
<th>type</th>
<th>value</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>url</td>
<td>none</td>
<td>The URL of the XML view of your selected issues in JIRA Issue Navigator. Note: If the URL in the 'url' parameter does not contain a tempMax argument, then the value of tempMax will default to 500. If your JIRA server is version 3.12 or earlier, this means that the JIRA Issues macro will return a maximum of 500 issues. If your JIRA server is version 3.13 or later, a value of 500 means that the JIRA Issues macro will return a maximum of 500 issues per page.</td>
</tr>
</tbody>
</table>

## Width (width)

<table>
<thead>
<tr>
<th>parameter</th>
<th>type</th>
<th>value</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>width</td>
<td>width</td>
<td>100%</td>
<td>The width of the table displaying the JIRA issues. Can be indicated either as a percentage (%) or in pixels (px).</td>
</tr>
</tbody>
</table>

### Issues Displayed a Page at a Time

If you are using **JIRA 3.13 or later**, the JIRA Issues macro will retrieve and show a 'page' of issues at a time. The buttons underneath the table allow you to move to the next or previous page, or to the start or end of the list. The number of issues retrieved per page is determined by the url parameter — see the description of the macro parameters above.

If your version of JIRA is **3.12 or earlier**, the JIRA Issues macro will retrieve all the issues at once and display them as a single 'page'.

### Example

Below is an example of some macro markup code, requesting a list of issues from the Atlassian public JIRA site:

```
{ jiraissues:anonymous=true|url= http://jira.atlassian.com/sr/jira.issueviews:searchrequest-xml/temp/SearchRequest.xml?&query=jiraissues&summary=true&description=true&body=true&pid=10470&tempMax=10 |columns=type;key;summary }
```

The example code contains three parameters (see above parameter table for their meanings):

- anonymous=true
- url=<a long URL derived from the XML view of a JIRA filter>
- columns=type;key;summary

Below are the results of the above macro markup, displayed on this Confluence page:

<table>
<thead>
<tr>
<th>JIRA Issues (10 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>CONF-1181</td>
</tr>
<tr>
<td>CONF-4472</td>
</tr>
<tr>
<td>CONF-3729</td>
</tr>
<tr>
<td>CONF-6878</td>
</tr>
<tr>
<td>CONF-2711</td>
</tr>
<tr>
<td>CONF-1595</td>
</tr>
<tr>
<td>CONF-4897</td>
</tr>
<tr>
<td>CONF-854</td>
</tr>
<tr>
<td>CONF-5303</td>
</tr>
<tr>
<td>CONF-11829</td>
</tr>
</tbody>
</table>

### Displaying Issues which have Restricted Viewing

Maybe your JIRA instance is not visible to anonymous visitors — everyone has to log in before they can see JIRA issues. Or maybe some of the JIRA issues are restricted to viewing by certain users only. This section explains how to handle JIRA issues that have restricted viewing.

**Using Confluence-to-JIRA Trusted Communication (Recommended)**

For **Confluence 2.7.0 and later** and **JIRA 3.12 and later**, your administrator can set up trusted communication between Confluence and JIRA. The entire process is described in the Confluence Administrator's Guide. Provided that your administrator has set up trusted communication, you don't need to add any extra parameters. Confluence and JIRA will work out the security between them, ensuring that the user will see only the issues they are authorised to see. Read the section below if you want more detail.
Remove the username and password from your macro markup code

Prior to Confluence 2.7, you needed to include a username and password in the macro markup code if you wanted to display JIRA issues which had restricted viewing. Once your administrator has set up trusted communication between Confluence and JIRA, you no longer need to include a username and password in the markup code for your JIRA macros.

The following options are available for determining the issues which will be retrieved from JIRA and displayed on the Confluence page:

<table>
<thead>
<tr>
<th>What you want to do</th>
<th>Macro parameter</th>
<th>URL parameter</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display the JIRA issues which the logged-in user is authorised to see. And if the user is not logged in, display only issues which allow unrestricted viewing.</td>
<td></td>
<td></td>
<td>Do not specify any authentication parameters. In this case, the behaviour depends on the way your administrator has set up trusted communication between JIRA and Confluence. Here is a summary of the behaviour. If trusted communication is enabled, the authorisation will work seamlessly. When a logged-in user views your page, they will see only the JIRA issues they are allowed to see. And if they are not logged in, they will see only the issues which allow unrestricted viewing. If trusted communication is disabled, the Confluence page will show only the JIRA issues which allow unrestricted viewing.</td>
</tr>
<tr>
<td>Ensure that Confluence will display only the JIRA issues which allow unrestricted viewing.</td>
<td>anonymous</td>
<td></td>
<td>Regardless of who the user is (logged in or not), the Confluence page will show only anonymously-visible issues. Confluence will not attempt to set up a trusted communication link with JIRA in this case.</td>
</tr>
<tr>
<td>Use a pre-determined username and password to access the JIRA issues.</td>
<td></td>
<td>&amp;os_username=MYNAME&amp;os_password=MYPASSWORD</td>
<td>Not recommended. Prior to Confluence 2.7, this was the only way of displaying issues with restricted viewing. For Confluence 2.7 and later, this method will still work. Confluence will not attempt to set up a trusted communication link with JIRA in this case.</td>
</tr>
</tbody>
</table>

Specifying Username and Password in the JIRA URL (Not Recommended)

If you have not set up trusted communication between JIRA and Confluence and if your JIRA issues have restricted viewing (i.e. JIRA requires a login before allowing access to the issues), then you need to type a JIRA username and password into the macro markup code and save it onto the Confluence page.

Append the following parameters to the end of the search URL:

```
&os_username=MYNAME&os_password=MYPASSWORD
```

where MYNAME is a JIRA username and MYPASSWORD is the corresponding password for that username. This username and password should not include an ampersand (&) symbol.

Troubleshooting

HTTPS

The JIRA Issues macro can access a JIRA instance running under SSL as long as the Confluence server is set to accept the JIRA SSL certificate. Refer to the Confluence Knowledge Base article for more information about problems connecting to SSL services.

And see also:

- JIRA Issues Macro FAQ
- Troubleshooting Trusted Communication between JIRA and Confluence

RELATED TOPICS
JIRA Portlet Macro

Working with Macros

In the Administrator's Guide:

- Configuring JIRA with Confluence
- Setting Up Trusted Communication between JIRA and Confluence

Take me back to the Confluence User Guide.

JIRA Portlet Macro

The JIRA Portlet Macro allows you to display a JIRA dashboard portlet on a Confluence page. JIRA is the issue tracking and project management system supplied by Atlassian.

On this page:

- Using JIRA 4.0
- Using JIRA 3.x
  - Obtaining the JIRA Portlet URL
  - Usage with the Macro Browser
  - Usage with the Wiki Markup Editor
  - Parameters
  - Example (for JIRA 3.13 or earlier)
  - Displaying Issues which have Restricted Viewing
    - Using Confluence-to-JIRA Trusted Communication
  - Troubleshooting
    - Ideas for new features or want more tips?
    - Logging Bugs and Requesting Support
    - Known Limitations when used with JIRA Calendar

Using JIRA 4.0

Please note the following if you intend to upgrade or have already upgraded your JIRA server to JIRA 4.0:

Setting up new JIRA portlets will not work when using Confluence 3.0 or earlier and JIRA 4.0.

Bear in mind that your existing JIRA portlet macros based on earlier versions of JIRA will continue to work in Confluence as they will still be functional in JIRA 4.0. However, due to architectural changes in JIRA 4.0, the ability to create new JIRA 4.0 portlet macros in Confluence 3.0 or earlier is not available. Please refer to JIRA-19285 and JIRA-18521 for more information.

If you would like the ability to create new JIRA 4.0 portlet macros in Confluence 3.0 or earlier, please vote for JIRA-18521. However, we intend to resolve this issue in a future release of Confluence.

Using JIRA 3.x

The JIRA portlet macro appears as shown in the screenshot below.

Screenshot: The JIRA Portlet Macro in Confluence

Obtaining the JIRA Portlet URL

The JIRA portlet macro requires a URL of the JIRA portlet content you wish to show on a Confluence page.

To obtain the JIRA portlet URL,
1. Log in to your JIRA system.
2. Add the portlet you wish to include in Confluence to your JIRA dashboard. (Once you have copied the portlet's URL into Confluence, you can remove it from your JIRA dashboard.)
3. Click 'On' beside 'Configure' on your JIRA dashboard. (If you don't see this link, you need to click the 'Manage Portal' link, click the 'Configure' button and then return to the dashboard.)
4. Right-click the title located at the top-left corner of the portlet and copy its link location. See Screenshot 1.

**Screenshot 1: Copy link location**

![Screenshot 1: Copy link location](image)

**Usage with the Macro Browser**

To insert the JIRA portlet macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you have found the JIRA portlet macro, paste your copied JIRA portlet URL into the JIRA Portlet URL field and then click 'Insert' to add it to your page.

**Usage with the Wiki Markup Editor**

To insert the JIRA portlet macro into a page using the Wiki Markup editor,

1. Log in to your Confluence system.
2. Paste the copied JIRA portlet URL at the end of the url parameter in a {jiraportlet} macro on your Confluence page.

**Parameters**

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JIRA Portlet URL (url)</td>
<td>yes</td>
<td>none</td>
<td>URL of the JIRA portlet, as described above. Certain JIRA portlets may require user authentication details in order to display their content. Hence you may need to append: &amp;os_username=yourJiraUsername&amp;os_password=yourJiraPassword to the end of this url.</td>
</tr>
<tr>
<td>Anonymous Retrieval (anonymous)</td>
<td>no</td>
<td>false</td>
<td>For Confluence 2.7.0 and later. If this parameter is set to 'true', JIRA will return only the issues which allow unrestricted viewing i.e. the issues which are visible to anonymous viewers, as determined by JIRA's viewing restrictions. If this parameter is omitted or set to 'false', then the results depend on how your administrator has configured the communication between JIRA and Confluence. By default, Confluence will show only the JIRA issues which the user is authorised to view. See more details below.</td>
</tr>
</tbody>
</table>
Example (for JIRA 3.13 or earlier)

Below is an example of some macro markup code, requesting a portlet from the Atlassian public JIRA site:

```plaintext
```

Below are the results of the above macro markup, displayed on this Confluence page:

Statistics: **Confluence** (Fix For Versions (non-archived))

<table>
<thead>
<tr>
<th>Version</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.10.2</td>
<td>1</td>
</tr>
<tr>
<td>2.10.3</td>
<td>1</td>
</tr>
<tr>
<td>3.0</td>
<td>20</td>
</tr>
<tr>
<td>3.1-m1</td>
<td>2</td>
</tr>
<tr>
<td>3.1-m2</td>
<td>2</td>
</tr>
<tr>
<td>3.1-m3</td>
<td>2</td>
</tr>
<tr>
<td>3.1-m5</td>
<td>4</td>
</tr>
<tr>
<td>3.1-m6</td>
<td>7</td>
</tr>
<tr>
<td>3.1-m7</td>
<td>15</td>
</tr>
<tr>
<td>3.1-beta1</td>
<td>14</td>
</tr>
<tr>
<td>3.1-beta2</td>
<td>22</td>
</tr>
<tr>
<td>3.1</td>
<td>59</td>
</tr>
<tr>
<td>3.1.1</td>
<td>1</td>
</tr>
<tr>
<td>3.2</td>
<td>8</td>
</tr>
<tr>
<td>3.1-devspeed</td>
<td>4</td>
</tr>
<tr>
<td>Medium term roadmap</td>
<td>3</td>
</tr>
<tr>
<td>Long term roadmap</td>
<td>1</td>
</tr>
<tr>
<td>Unscheduled</td>
<td>5326</td>
</tr>
</tbody>
</table>

Total Issues: 5,490

Displaying Issues which have Restricted Viewing

This section explains how to handle JIRA issues that have restricted viewing. Maybe your JIRA instance is not visible to anonymous visitors - everyone has to log in before they can see JIRA issues. Or maybe some of the JIRA issues are restricted to viewing by certain users only.

Using Confluence-to-JIRA Trusted Communication

Your administrator can set up trusted communication between Confluence and JIRA. The entire process is described in the Confluence Administrator's Guide.

Here is a relevant extract from the above page:

- **Remove the username and password from your macro markup code**
  
  Prior to Confluence 2.7, you needed to include a username and password in the macro markup code if you wanted to display JIRA issues which had restricted viewing. Once your administrator has set up trusted communication between Confluence and JIRA, you no longer need to include a username and password in the markup code for your JIRA macros.

The following options are available for determining the issues which will be retrieved from JIRA and displayed on the Confluence page:

<table>
<thead>
<tr>
<th>What you want to do</th>
<th>Macro parameter</th>
<th>URL parameter</th>
<th>Comments</th>
</tr>
</thead>
</table>

1445
Display the JIRA issues which the logged-in user is authorised to see. And if the user is not logged in, display only issues which allow unrestricted viewing.

Do not specify any authentication parameters. In this case, the behaviour depends on the way your administrator has set up trusted communication between JIRA and Confluence. Here is a summary of the behaviour. If trusted communication is enabled, the authorisation will work seamlessly. When a logged-in user views your page, they will see only the JIRA issues they are allowed to see. And if they are not logged in, they will see only the issues which allow unrestricted viewing. If trusted communication is disabled, the Confluence page will show only the JIRA issues which allow unrestricted viewing.

Ensure that Confluence will display only the JIRA issues which allow unrestricted viewing.

anonymous

Regardless of who the user is (logged in or not), the Confluence page will show only anonymously-visible issues. Confluence will not attempt to set up a trusted communication link with JIRA in this case.

Use a pre-determined username and password to access the JIRA issues.

&os_username=MYNAME&os_password=MYPASSWORD

Not recommended. Prior to Confluence 2.7, this was the only way of displaying issues with restricted viewing. For Confluence 2.7 and later, this method will still work. Confluence will not attempt to set up a trusted communication link with JIRA in this case.

Troubleshooting

Ideas for new features or want more tips?

If you have an idea for a new feature, please log it on our JIRA site. You will also find many hints and tips on our Confluence forum. Try asking a question or sharing your ideas with other Confluence users.

Logging Bugs and Requesting Support

If you have found a bug in this macro, please log it on our JIRA site. If you encounter a problem using this macro, please raise a ticket on our Support site.

Known Limitations when used with JIRA Calendar

If you are using the JIRA Portlet macro in combination with the JIRA Calendar, paging will work only if your Confluence and JIRA sites are running on the same host. Otherwise, you see error messages like Access to restricted URI.

Reason: the Calendar portlet communicates with JIRA via AJAX requests. Because of security concerns, browsers by default do not allow requests to any host different from the one the page was originally downloaded from.

There is a workaround. If you wish, you can turn off this security check in your browser. The exact way depends on your browser version, so Google for hints.

⚠️ Please consider all implications of turning off this security check before you perform this action.

There is an existing request to develop support for proxying of the AJAX requests from Confluence to JIRA. If you need this feature, please vote for this issue: JCAL-64.

RELATED TOPICS

JIRA Issues Macro
Working with Macros
In the Administrator’s Guide:

- Configuring JIRA with Confluence
- Setting Up Trusted Communication between JIRA and Confluence

Take me back to the Confluence User Guide.
JUnit Report Macro

The **JUnit Report Macro** displays a summary of JUnit test results from a directory accessible by the Confluence server. JUnit is a unit testing framework which allows programmers to ensure that individual units of Java source code are functioning correctly.

The JUnit report macro appears as shown in the screenshot below.

**Screenshot: The JUnit Report Macro in Confluence**

<table>
<thead>
<tr>
<th>Test</th>
<th>Time</th>
<th>Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>MoneyTest</td>
<td>00:03:391</td>
<td>Tests:Failures:Exceptions:</td>
</tr>
<tr>
<td>testAdd</td>
<td>00:03:0</td>
<td>1 0 0</td>
</tr>
</tbody>
</table>

When generating reports from JUnit, set the Apache Ant formatter to **'XML'**.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples

### Usage with the Macro Browser

To insert the JUnit report macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the JUnit report macro, fill in the URL fields and click 'insert' to add it to your page.

### Usage with the Wiki Markup Editor

To insert the JUnit report macro into a page using the Wiki Markup Editor,

Enter the `junitreport` code tags into your document as follows.

```markdown
{junitreport:directory=file:///*directory*/}
```

### Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th><strong>Parameter</strong></th>
<th><strong>Default</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Directory (URL) of your test result files (directory)</td>
<td>None</td>
<td>URL of a directory containing your test result files.</td>
</tr>
<tr>
<td>Report Detail (reportdetail)</td>
<td>'fixture'</td>
<td>Detail for report. Can be 'all', 'fixture', 'summary' or 'failuresonly'.</td>
</tr>
</tbody>
</table>

---

1447
URL of the test result XML file (url)

| None | URL of a particular test result XML file. For Confluence installations without anonymous user access, you can specify logon credentials as part of this parameter in the form of URL parameters:
|------|---------------------------------------------------------------------------------------------------------------------------------------------------
|      | • os_username — The username of a Confluence user with permission to access to the JUnit test results.                                                  |
|      | • os_password — The password of the Confluence user specified in the os_username parameter.                                                        |

(debug)

None | Shows the content of failures, as well as the error messages.

Examples

Loading JUnit reports from a local drive

```
{junitreport:directory-file:///C:/TEMP/}
```

⚠️ Must be a directory name and not the XML file itself.

Loading JUnit reports from a network drive

```
{junitreport:url=http://*host*/*path*}
```

Loading JUnit reports from a Confluence instance

```
{junitreport:url=http://yourConfluenceInstance.com/download/attachments/<page id>/file.xml}
```

Loading JUnit reports from a Confluence instance without anonymous user access

If your Confluence instance is not accessible by anonymous users, specify logon credentials with the os_username and os_password URL parameters (as part of the macro's url parameter). In this case, we are specifying a username of "admin" and a password of "admin".

```
{junitreport:url=http://yourConfluenceInstance.com/download/attachments/<page id>/file.xml?os_username=admin&os_password=admin}
```

⚠️ If you use both the directory and url parameters in the same macro, the directory will be used and the url parameter ignored.

RELATED TOPICS

Working with Macros

Take me back to the Confluence User Guide.

Livesearch Macro

The Livesearch Macro allows you to add a search box to a Confluence page. When users enter a search term into the search box, Confluence will dynamically display matching results as they type.

The livesearch macro appears as shown in the screenshot below:

*Screenshot: The Livesearch Macro in Confluence*

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples
Usage with the Macro Browser

To insert the livesearch macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the livesearch macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{livesearch}</td>
<td></td>
</tr>
</tbody>
</table>

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol ( :).

The Livesearch macro allows the following parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID (id)</td>
<td>no</td>
<td>none</td>
<td>Uniquely identifies the Livesearch when there are multiple livesearch macros in one page.</td>
</tr>
<tr>
<td>Restrict to this Space Key (spaceKey)</td>
<td>no</td>
<td>all spaces</td>
<td>Specify a space key to limit the search to the given space.</td>
</tr>
</tbody>
</table>

Examples

Restricting the Search to a Single Space

The sample code below restricts the search to the space which has a space key of 'DS'.

```markdown
{livesearch:spaceKey=DS}
```

RELATED TOPICS

Searching Confluence
Search Macro
Working with Macros

Take me back to the Confluence User Guide.

Loremipsum Macro

The Loremipsum macro displays a few paragraphs of pseudo-Latin text (more information). You can use this macro to generate some more-or-less meaningless text for demonstration purposes in pages showing a draft layout or arrangement of page elements. The text is deliberately non-meaningful so that it does not influence the viewer’s perception of the page arrangement or design.

A basic example of the Loremipsum macro is shown in the block below.

Without any parameters, the \{loremipsum\} macro generates three paragraphs. However, any number of paragraphs can be specified.

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

**Usage with the Macro Browser**

**To insert the Loremipsum macro into a page using the Macro Browser,**

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon \[\] on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the Loremipsum macro, click 'insert' to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>


### Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in *Bold* text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Paragraphs</td>
<td>3</td>
<td>Displays paragraphs of pseudo-Latin (space-filler) text.</td>
</tr>
</tbody>
</table>

Apart from the number of paragraphs, there are no additional parameters for this macro.

### RELATED TOPICS

**Working with Macros**

Take me back to the *Confluence User Guide*.

### Metadata Macro

The **Metadata macro** allows you to embed metadata into pages and blog posts for presentation with the **Metadata Summary Macro**. Each metadata item consists of a field name and an associated value. When a metadata macro is rendered on a page, each metadata item is presented on a single line, starting with the name of the field, followed by its value, for example:

**Is-Secret**: Yes
**Author-Nickname**: Banana Split

Each metadata macro is 'labelled', allowing you to:

- insert multiple Metadata macros on a single page or blog post, each with a different label
- use the Metadata Summary macro to generate a summary based on Metadata macros tagged with a specific label.

Metadata macro 'label's are completely unrelated to page labels. A Metadata macro's label is only used by the Metadata Summary macro for the purpose of generating its summary.
As far as the Metadata Summary macro is concerned, each field only possesses a single value. Hence, if you added multiple values to a field (for example, by separating each value with a comma), the Metadata Summary macro treats this as a single value and presents it as such.

On this page:
- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

Usage with the Macro Browser

To insert the metadata macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the metadata macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

```
{details:label=test}
Is-Secret: Yes
Author-Nickname: Banana Split
{details}
```

Each metadata item is added on a separate line. Separate each field and value with a colon (:) followed by a space. For example: `colour: Red`.

In the example above,
- `test` is the label of this metadata macro, which can be identified uniquely on a page in a metadata summary
- `Is-Secret` is a field of value `Yes`
- `Author-Nickname` is another field with a value of `Banana Split`.

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required in Wiki Markup?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metadata Label (label)</td>
<td>yes</td>
<td>none</td>
<td>Used by the Metadata Summary macro to generate a summary based on all Metadata macros tagged with this label throughout the current space.</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

Working with Macros

Take me back to the Confluence User Guide.

**Metadata Summary Macro**

The **Metadata Summary macro** presents a tabulated summary of selected metadata, which has been embedded using the **Metadata Macro** on any page or blog post in the current Confluence space.

The left-most column of the metadata summary shows the name of each page or blog post within current space that contains the selected metadata. Each page or blog post is presented on a single row and is hyperlinked to its appropriate destination page.
Each subsequent column represents a unique field within the selected metadata. The value associated with each metadata field on a page or blog post is presented in the appropriate cell of the metadata summary table. For example, the following Metadata Summary macro shows all Metadata macros tagged with the 'test' label in the current space.

<table>
<thead>
<tr>
<th>Metadata Macro</th>
<th>Is-Secret</th>
<th>Author-Nickname</th>
<th>Author-Firstname</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metadata Macro</td>
<td>Yes</td>
<td>Banana Split</td>
<td></td>
</tr>
<tr>
<td>Metadata Summary Macro</td>
<td>Strawberry Sundae</td>
<td>Fred</td>
<td></td>
</tr>
</tbody>
</table>

Metadata macro 'label's are completely unrelated to page labels. A Metadata macro's label is only used by the Metadata Summary macro for the purpose of generating its summary.

On this page:
- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Another Metadata Macro Example

Usage with the Macro Browser

To insert the metadata summary macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the metadata summary macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

```markuptext
{details:summary:label=test}
```

This shows a metadata summary based on all Metadata macros in pages or blog posts of the current space, which have been labelled with 'test'.

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required in Wiki Markup?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metadata Label</td>
<td>yes</td>
<td>none</td>
<td></td>
</tr>
<tr>
<td>(label)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Restricts the Metadata Summary macro to summarise the contents of Metadata macros throughout the current space, which have been tagged with this label only.

Another Metadata Macro Example

The following Metadata macro example generates the second line in the Metadata Summary macro (above).

**Author-Nickname**: Strawberry Sundae
**Author-Firstname**: Fred

**RELATED TOPICS**

Working with Macros
Network Macro

The **Network** macro displays a list of Network interactions between users in your Confluence site, on your Confluence page or blog.

The Network macro allows you to specify the user whose network interactions you wish to show. These interactions include the users that the specified user is following or users who are following the specified user. The Network macro depicts each listed user by their profile picture. It also provides a choice of two themes and the ability to limit the number of users in the list.

**Screenshot: Network Macro**

### Following

You are following 10 users

<table>
<thead>
<tr>
<th>User name</th>
<th>Follow</th>
</tr>
</thead>
</table>

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

**Usage with the Macro Browser**

To insert the Network macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the Network macro and have added the required parameter values, click 'insert' to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>Example of what you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{network:following}</td>
<td><img src="image" alt="Following" /></td>
</tr>
</tbody>
</table>

**Parameters**

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the
Confluence 3.0 Documentation

macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in `(bracketed)` text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (`:`).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required in Wiki Markup?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username (username)</td>
<td>no</td>
<td>current user's username</td>
<td>The username of the Confluence user whose network interactions you wish to show. If no username is specified, then current user's (that is, your) network interactions are shown.</td>
</tr>
<tr>
<td>Mode</td>
<td>no</td>
<td>following (followers in the Wiki Markup editor)</td>
<td>Determines if this macro lists users who the specified user is following (<strong>following</strong>) or users who are following the specified user (<strong>followers</strong>).</td>
</tr>
<tr>
<td>Theme (theme)</td>
<td>no</td>
<td>full</td>
<td>The <strong>full</strong> theme depicts users with large versions of their profile pictures and if your network associations are shown in <strong>following</strong> mode, provides an entry field function to follow more users. The <strong>tiny</strong> theme depicts users with small versions of their profile pictures only.</td>
</tr>
<tr>
<td>Maximum Results (max)</td>
<td>no</td>
<td>no limit imposed up to a maximum of 30</td>
<td>Restricts the amount of users shown by this macro to the number specified. If the number of users exceeds the specified maximum, then a <strong>Show All</strong> link is provided. This link leads to the specified user's <strong>Network view</strong>, showing the complete list of network interactions depicted by this macro.</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

**Working with Macros**

Take me back to the Confluence User Guide.

**Noformat Macro**

The **Noformat Macro** displays a block of text in monospace font with no other formatting.

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Example

**Usage with the Macro Browser**

To insert the noformat macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the noformat macro, click 'insert' to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{noformat} I do not want this text formatted!</td>
<td>I do not want this text formatted!</td>
</tr>
</tbody>
</table>

**Parameters**

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant
parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Text</td>
<td>Affects text between the noformat tags.</td>
<td>The text that will be processed by the noformat macro.</td>
</tr>
<tr>
<td>No Panel</td>
<td>False</td>
<td>Removes the bordering panel.</td>
</tr>
</tbody>
</table>

Example

Remove the panel around the text

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{noformat:nopanel=true} I do not want this text formatted!</td>
<td>I do not want this text formatted!</td>
</tr>
<tr>
<td>{noformat}</td>
<td></td>
</tr>
</tbody>
</table>

Format the panel

All of the optional parameters for the Panel macro are also valid for the Noformat macro.

RELATED TOPICS

Working with Macros

Take me back to the Confluence User Guide.

Nolink and nl Macros

The Nolink (or nl) macro allows you to enter a web address or URL, without the browser automatically hyperlinking the URL.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

Usage with the Macro Browser

To insert the Nolink macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the Nolink macro and have added the required parameter values, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{nolink:<a href="http://www.atlassian.com%7D">http://www.atlassian.com}</a></td>
<td><a href="http://www.atlassian.com">http://www.atlassian.com</a></td>
</tr>
<tr>
<td>{nl:<a href="http://www.atlassian.com%7D">http://www.atlassian.com}</a></td>
<td><a href="http://www.atlassian.com">http://www.atlassian.com</a></td>
</tr>
</tbody>
</table>

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.
Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *bracketed* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required in Wiki Markup?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>URL</td>
<td>no</td>
<td>none</td>
<td>The web address or URL that you do not want the browser to automatically hyperlink.</td>
</tr>
</tbody>
</table>

**Related Topics**

Working with Macros

Take me back to the Confluence User Guide.

**Note Macro**

The **Note Macro** allows you to highlight a note on a Confluence page. It creates a yellow-coloured box surrounding your text as shown below.

![Note Macro Example](image)

This text is rendered inside the note macro.

On this page:
- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

**Usage with the Macro Browser**

**To insert the Note macro into a page using the Macro Browser,**

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the Note macro and have added the required parameter values, click 'Insert' to add it to your page.

**Usage with the Wiki Markup Editor**

**What you need to type** | **What you will get**
---|---
{note}Be careful {note} | Be careful

{note:title=Don't Panic}Be happy.{note} | Don't Panic
Be happy.
Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required in Wiki Markup?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional Title <em>(title)</em></td>
<td>no</td>
<td>none</td>
<td>The title of the note. If specified, will be displayed in bold next to the icon.</td>
</tr>
<tr>
<td>Show Exclamation Mark Icon <em>(icon)</em></td>
<td>no</td>
<td>true</td>
<td>If &quot;false&quot;, the icon will not be displayed.</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

Working with Macros

Take me back to the Confluence User Guide.

**Page Index Macro**

The **Page Index macro** creates a hyperlinked alphabetical index of all pages within the current space.

The top section of the Index contains a cell for letter of the alphabet, including separate cells for numbers and symbols. Each of these cells indicates the number of pages in which the first letter of the title matched the corresponding letter, number or symbol in the cell.

The lower section is effectively an extended version of the top section. However, each cell shows the page name followed by the first few sentences of content on that page.

Each letter, number or symbol in the top section is hyperlinked and leads to its corresponding cell in the lower section. Additionally, each page title in the lower section is hyperlinked and leads to its corresponding page in the space.

**Screenshot: Index Macro segment**
On this page:

- Usage with the Macro Browser
- Usage in Wiki Markup
- Parameters

Usage with the Macro Browser

To insert the Page Index macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the Page Index macro, click 'Insert' to add it to your page.

Usage in Wiki Markup

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>Segment of what you will get</th>
</tr>
</thead>
</table>

1.4 Interface - Where Did Everything Go?

you’re used to the Confluence Classic interface, the new 1.4 interface might be a little hard to navigate at first. We think that the new design is a vast improvement, but it’s inevitable that people who have used the application since its release will be wondering where...

2.2.5 Security Patch

patch fixes a minor security vulnerability regarding the administration of space mail accounts. It affects only Confluence 2.2.5. To install this patch please download the three files attached to this page, stop Confluence and copy them to your ([WEBINF/classes/com ...
Parameters

This macro accepts no parameters.

RELATED TOPICS

Working with Macros

Take me back to the Confluence User Guide.

Pagetree Macro

The Pagetree macro displays a dynamic, hierarchical list of pages starting from a specified parent (root) page. You can embed the page tree into your Confluence page, where it can act as a table of contents or a list of related topics.

When viewing the page tree, your reader can click a link to open the relevant page. The page's current position is highlighted in the page tree.

Below we tell you how to add the Pagetree macro to your page.

Creating a navigation panel for your space

A popular usage of the Pagetree macro is to create a navigation panel showing a table of contents for your space. Read the instructions on Adding a Navigation Sidebar.
Usage with the Macro Browser

To insert the Pagetree macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the Pagetree macro and have added the required parameter values, click 'Insert' to add it to your page.

Usage with the Wiki Markup Editor

Include the following markup in your page:

```
{pagetree}
```

There are more examples below.

Macro Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include Excerpts in Page Tree (excerpt)</td>
<td>no</td>
<td>false</td>
<td>Set this value to 'true' if you want the page tree to show excerpts from each page. The excerpts must be defined on each page by the Excerpt macro.</td>
</tr>
<tr>
<td>Show Expand/Collapse Links (expandCollapseAll)</td>
<td>no</td>
<td>false</td>
<td>Set this value to 'true' if you want to display the 'expand all' and 'collapse all' links at the top of your page tree. Your readers can click these links to open or close all branches of the tree at once.</td>
</tr>
<tr>
<td>Reverse Order (reverse)</td>
<td>no</td>
<td>false</td>
<td>Use this parameter in combination with the sort parameter described below. Set this value to 'true' if you want the pages displayed in descending order rather than ascending order.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Default Value</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Root Page</strong></td>
<td>no</td>
<td>The home page of the space</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specify the parent page for the page tree. The tree will include all children of the given page, plus their children and grand-children etc. The tree will not include the root page itself. Specify the page title or a special value as follows:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Your page title — Page tree shows all pages under the specified page.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• @home — Page tree shows all pages under the home page of the space (default).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• @self — Page tree shows all pages under the current page.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• @parent — Page tree shows all pages under the parent of the current page, including the current page.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• @none — Page tree shows all pages in the space, including orphaned pages and the home page.</td>
<td></td>
</tr>
<tr>
<td><strong>Include Search Box above Page Tree</strong></td>
<td>no false</td>
<td>Set this value to 'true' if you want to include a search box above the page tree. The search box allows your readers to enter a search term, and then searches within the page tree for the specified value.</td>
<td></td>
</tr>
<tr>
<td><strong>Sort Pages By</strong></td>
<td>no position</td>
<td>Specify the order to display the pages in the tree. This sort order is for display purposes only. It does not permanently re-arrange the page order. The value may be one of the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 'bitwise' — Display the pages using standard alphabetical sorting, such as: title1, title10, title2.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 'creation' — Display the pages in order of date created.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 'modified' — Display the pages in order of date last modified.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 'natural' — Display the pages in 'natural' alphabetical order, such as: title1, title2, title10.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 'position' — Display the pages using the default Confluence sorting rules. If your pages have been ordered manually, this sort will respect the defined order. Otherwise the pages will be displayed in the 'natural' alphabetical order, such as: title1, title2, title10.</td>
<td></td>
</tr>
<tr>
<td><strong>Start Depth</strong></td>
<td>no 1</td>
<td>Enter any number greater than 0, indicating how many levels of children the tree should show when it opens for the first time.</td>
<td></td>
</tr>
</tbody>
</table>

**Examples**

**All Parameters**

Here’s an example using all the parameters:

```text
{pagetree:root=Page Name|sort=natural|excerpt=true|reverse=false|startDepth=3|expandCollapseAll=true|searchBox=true}
```

**Specifying the Parent Page by Name**

Use the following code to specify a page name for the parent or root of the tree. The tree will include all children and grand-children of the specified root. The tree will not include the specified root page itself.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>[pagetree:root=Page Macro]</td>
<td></td>
</tr>
</tbody>
</table>

The above example is a 'live' example. It uses the child pages of this page to form the page tree.

**Showing All Pages in the Space**

Use the following code to make the page tree show all pages in the space, including orphaned pages and the home page.

```text
{pagetree:root=@none}
```

**Setting the Current Page as the Parent Page**
<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{pagetree:root= @self}</td>
<td>{pagetree:root= @self}</td>
</tr>
</tbody>
</table>

The above example is a 'live' example. It uses the child pages of this page to form the page tree.

**Showing Excerpts from Each Page**

Use the following code if you want your page tree to include excerpts from each page. The excerpts must be defined on each page by the Excerpt macro.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{pagetree:root= @self</td>
<td>excerpt= true}</td>
</tr>
</tbody>
</table>

The above example is a 'live' example. It uses the child pages of this page to form the page tree.

**Allowing your Readers to Expand or Collapse All Branches**

Use the following code if you want to show the 'expand all' and 'collapse all' links at the top of your page tree.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{pagetree:root= @self</td>
<td>expandCollapseAll= true}</td>
</tr>
</tbody>
</table>

The above example is a 'live' example. It uses the child pages of this page to form the page tree.

**Including a Search Box**

Use the following code if you want to include a search box at the top of your page tree.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{pagetree:root= @self</td>
<td>searchBox= true}</td>
</tr>
</tbody>
</table>

The above example is a 'live' example. It uses the child pages of this page to form the page tree.

**Sorting the Pages in Reverse Natural Order**

Use the following code if you want to show the pages in reverse natural order.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{pagetree:root= @self}</td>
<td>{pagetree:root= @self}</td>
</tr>
</tbody>
</table>

The above example is a 'live' example. It uses the child pages of this page to form the page tree.
The above example is a ‘live’ example. It uses the child pages of this page to form the page tree.

**RELATED TOPICS**

- Pagetree Search Macro
- Adding a Navigation Sidebar
- Working with Macros

Take me back to the Confluence User Guide.

### Sample Page Tree

This page is a sample, used to demonstrate the Pagetree macro.

For more information, take a look at the main page on the Pagetree Macro.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>`{pagetree:root=@parent</td>
<td>expandCollapseAll=false}`</td>
</tr>
</tbody>
</table>

### Another Sample Page Tree

We're using this page to demonstrate the Pagetree macro.

For more information, take a look at the main page on the Pagetree Macro.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>`{pagetree:root=@parent</td>
<td>expandCollapseAll=true}`</td>
</tr>
</tbody>
</table>

### Sample Page Tree 2

This is another sample page, used to demonstrate the Pagetree macro.

For more information, take a look at the main page on the Pagetree Macro.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>`{pagetree:root=@parent</td>
<td>expandCollapseAll=true}`</td>
</tr>
</tbody>
</table>

### Pagetree Search Macro

The **Pagetree Search macro** allows you to add a search box to your Confluence page. When a viewer enters a search term, Confluence will search a hierarchy of pages starting from a specified parent (root) page and return the search results on a new screen.

Below we tell you how to add the Pagetree Search macro to your page.

You may be interested in the Pagetree macro
You can also add a search box as part of a dynamic page tree, which looks like a table of contents. Read the instructions on the Pagetree Macro.

On this page:
Usage with the Macro Browser

To insert the Pagetree Search macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the Pagetree Search macro and have added the required parameter values, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

Include the following markup in your page:

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{pagetreesearch}</td>
<td></td>
</tr>
</tbody>
</table>

Macro Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Root Page</td>
<td>no</td>
<td>none</td>
<td>The name of the root page whose hierarchy of pages will be searched by this macro. If this not specified, the root page is the current page.</td>
</tr>
</tbody>
</table>

**Related Topics**

- Pagetree Macro
- Adding a Navigation Sidebar
- Working with Macros

Take me back to the Confluence User Guide.

Panel Macro

The **Panel Macro** allows you to display a block of text within a customisable panel.

Once the Panel macro has been inserted on a page, you can only edit its parameters in Wiki Markup mode.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

Usage with the Macro Browser

To insert the Panel macro into a page using the Macro Browser,
1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you’ve found the Panel macro and have added the required parameter values, click ‘Insert’ to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{panel}</td>
<td>A simple panel</td>
</tr>
<tr>
<td>{panel}</td>
<td>A simple panel</td>
</tr>
<tr>
<td>{panel:title=My Title</td>
<td>borderStyle=dashed</td>
</tr>
</tbody>
</table>

Handy Hint: You can use panels within columns.

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

- Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel Title (title)</td>
<td>no</td>
<td>none</td>
<td>The title of the panel. If specified, this title will be displayed in its own title-row.</td>
</tr>
<tr>
<td>Border Style (borderStyle)</td>
<td>no</td>
<td>solid</td>
<td>The style of the panel’s border. Valid values are ‘solid’, ‘dashed’ and other valid CSS border styles.</td>
</tr>
<tr>
<td>Border Colour (borderColor)</td>
<td>no</td>
<td></td>
<td>The colour of the panel’s border.</td>
</tr>
<tr>
<td>Border Pixel Width (Value Only)</td>
<td>no</td>
<td></td>
<td>The width of the panel’s border (in pixels).</td>
</tr>
<tr>
<td>Background Colour (bgColor)</td>
<td>no</td>
<td></td>
<td>The background colour of the panel.</td>
</tr>
<tr>
<td>Panel Title’s Background Colour</td>
<td>no</td>
<td></td>
<td>The background colour of the title-row of the panel.</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- Working with Macros

Take me back to the Confluence User Guide.

Profile Macro
The Profile macro displays a short summary of any Confluence user’s profile on your Confluence page or blog. This is the same summary that appears in a Hover Profile, which appears whenever you mouse-over any user’s name in the Confluence interface.

The information contained within your own summarised profile can be edited via your User Profile view.

Screenshot: Example of the Profile Macro

| Giles Gaskell |
| gaskell@atlassian.com |
| “Working on final User Profile updates.” |
| Website: | http://www.atlassian.com |
| Position: | Technical Writer |
| Department: | Development |
| Location: | Sydney |

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

Usage with the Macro Browser

To insert the Profile macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you’ve found the Profile macro and have added the required parameter values, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>Example of what you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{profile:user=gaskell}</td>
<td>{profile:user=gaskell}</td>
</tr>
</tbody>
</table>

| Giles Gaskell |
| gaskell@atlassian.com |
| “Working on final User Profile updates.” |
| Website: | http://www.atlassian.com |
| Position: | Technical Writer |
| Department: | Development |
| Location: | Sydney |

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required in Wiki Markup?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
</table>

1467
Quote Macro

The **Quote** Macro allows you to present a section of text as a quote or citation, allowing you to add further information in the form of a response. This is similar to the way people sometimes reply to email messages, by adding their responses immediately after citations of the originator's text.

For example, when adding a comment to a Confluence page or blog and you wish to cite some content on it, you can do so with this macro as follows:

```
| This is similar to the way people sometimes reply to email messages, by adding their responses immediately after citations of the originator’s text. |
| I often reply to other's email messages in this manner. |
```

On this page:
- Usage with the Macro Browser
- Usage in Wiki Markup
- Parameters

**Usage with the Macro Browser**

To insert the quote macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the quote macro, click 'insert' to add it to your page.

**Usage in Wiki Markup**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>

**Parameters**

This macro accepts no parameters.
Take me back to the Confluence User Guide.

Recently Updated Dashboard Macro

The Recently Updated Dashboard macro displays a list of the most recently changed content within Confluence. It is similar to the Recently Updated macro but is intended for use on the Confluence dashboard.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples
  - 1. Include all spaces and limit the display width to 50%
  - 2. Specify the spaces for which you want to view recently updated content
  - 3. Specify the width of the macro display
  - 4. Filter content using labels
  - 5. Display profile pictures
  - 6. Display recent comments, including profile pictures and text

Usage with the Macro Browser

To insert the recently updated dashboard macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the recently updated dashboard macro and have added the required parameter values, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>(recently-updated-dashboard)</td>
<td>Recently Updated</td>
</tr>
<tr>
<td>Development Release Warnings by Giles Gaskell [Atlassian Technical Writer] (4 hours ago)</td>
<td></td>
</tr>
<tr>
<td>Re: Release Notes 3.1-m7 (&quot;Milestone 7&quot;) by Don Gamble (5 hours ago)</td>
<td></td>
</tr>
<tr>
<td>Recognised System Properties by Don Willis (5 hours ago)</td>
<td></td>
</tr>
<tr>
<td>Displaying an Office Document in Confluence by Giles Gaskell [Atlassian Technical Writer] (6 hours ago)</td>
<td></td>
</tr>
<tr>
<td>Re: Release Notes 3.1-m7 (&quot;Milestone 7&quot;) by Brendan Patterson (7 hours ago)</td>
<td></td>
</tr>
<tr>
<td>Re: Release Notes 3.1-m7 (&quot;Milestone 7&quot;) by Jesse Rehmer (7 hours ago)</td>
<td></td>
</tr>
<tr>
<td>Re: Livesearch Macro by Anonymous (10 hours ago)</td>
<td></td>
</tr>
<tr>
<td>Re: Livesearch Macro by Anonymous (10 hours ago)</td>
<td></td>
</tr>
<tr>
<td>Re: Children Display Macro by Steve Smith (10 hours ago)</td>
<td></td>
</tr>
<tr>
<td>Re: Content by Label Macro by Steve Smith (11 hours ago)</td>
<td></td>
</tr>
</tbody>
</table>

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).
### Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Label(s)</strong> (labels)</td>
<td>no</td>
<td>none</td>
<td>Filter content by label. The macro will display only the pages etc which are tagged with the label(s) you specify here. You can specify one or more labels, separated by commas. If there are no pages matching any of the specified labels, then Confluence will ignore the labels and will list all recently updated pages, as well as showing a message, “These labels don’t exist and were ignored: xxx”. This unexpected behaviour is noted in issue CONF-10167.</td>
</tr>
<tr>
<td><strong>Show User Profile Pictures</strong> (showProfilePic)</td>
<td>no</td>
<td>false</td>
<td>Specify showProfilePic=true to display the profile pictures of the users who updated the content.</td>
</tr>
<tr>
<td><strong>Space(s)</strong> (spaces)</td>
<td>no</td>
<td>The space which contains the page on which the macro is coded</td>
<td>Filter content by space. The macro will display only the pages etc which belong to the space(s) you specify here. You can specify one or more space keys, separated by commas. &quot;*&quot; means all spaces.</td>
</tr>
<tr>
<td><strong>Include these Content Types Only</strong> (types)</td>
<td>no</td>
<td>all types</td>
<td>Filter content by type. You can specify one or more types, separated by commas. Available types are: page, blogpost or news, spacedesc, attachment, comment, mail, userinfo.</td>
</tr>
<tr>
<td><strong>Width of Table</strong> (width)</td>
<td>no</td>
<td>100%</td>
<td>Specify the width of the macro display, as a percentage of the window width.</td>
</tr>
</tbody>
</table>

### Examples

1. Include all spaces and limit the display width to 50%

The code below will show all the pages from all the spaces that have been recently updated.

```
{recently-updated-dashboard:spaces=|width=50%}
```

2. Specify the spaces for which you want to view recently updated content

```
{recently-updated-dashboard:spaces=Name1,Name2|width=50%}
```

3. Specify the width of the macro display

```
{recently-updated-dashboard:width=50%}
```

4. Filter content using labels

```
{recently-updated-dashboard:spaces=sales,marketing|labels=timesheets,summaries}
```

5. Display profile pictures

The code below will display the profile picture of the user who most recently updated the content.

```
{recently-updated-dashboard:showProfilePic=true}
```

6. Display recent comments, including profile pictures and text

The code below will display recent comments in the current space, showing the profile picture of the users who made the comments, plus the first line or two of the comment text. This is the only way to ensure that the text of the comments is displayed, using this macro.

```
{recently-updated-dashboard:types=comment|showProfilePic=true}
```
Customising the wording
If you would like to change the wording displayed by the 'Recently Updated' macro, please refer to the document on modifying the Confluence interface text.

RELATED TOPICS
Recently Updated Macro
Viewing Recently Updated Content
Working with Macros

Take me back to the Confluence User Guide.

Recently Updated Macro

The **Recently Updated** macro displays a list of the most recently changed content within Confluence.

The **Recently Updated Dashboard** macro is similar to this macro, but is intended for display on the Confluence dashboard.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Working Example of Usage
- Parameters
- Examples
  - 1. Include content from all spaces
  - 2. Include content from specific spaces
  - 3. Specify the width of the display
  - 4. Filter content using labels
  - 5. Sort the results
  - 6. Filter by content type
  - 7. Change the number of results in the list
  - 8. Display profile pictures
  - 9. Display recent comments, including profile pictures and text

Usage with the Macro Browser

**To insert the recently updated macro into a page using the Macro Browser,**

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon [ ] on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the recently updated macro and have added the required parameter values, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

```
{recently-updated}
```

Working Example of Usage

Below is a working example of the 'Recently Updated' macro which by default, lists 15 results.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>
Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author(s) by username (author)</td>
<td>no</td>
<td>None specified i.e. display all content</td>
<td>Filter the results by author. The macro will display only the pages etc which were last modified by the author(s) you specify here. You can specify one or more authors, separated by a comma or a space.</td>
</tr>
<tr>
<td>Label(s) (label) or (labels)</td>
<td>no</td>
<td>None specified i.e. display all content</td>
<td>Filter the results by label. The macro will display only the pages etc which are tagged with the label(s) you specify here. You can specify one or more label values, separated by a comma or a space.</td>
</tr>
<tr>
<td>Maximum Number of Results (max) or (maxResults)</td>
<td>no</td>
<td>15</td>
<td>Specify the maximum number of results to be displayed. Note that the results are sorted first, and then the maximum parameter is applied. If this parameter is omitted, then a maximum of 15 results are displayed. The theoretical maximum value that this parameter can accept is 2 to the power of 31, minus 1 (or 2147483647).</td>
</tr>
</tbody>
</table>

- To exclude content which matches a given label, put a minus sign (-) immediately in front of that label value. For example: If you specify a label value of 'badpage' you will get only content which is not labelled with 'badpage'.
- To indicate that the results must match a given label value, put a plus sign (+) immediately in front of that label value. For example: If you specify a label value of superpage, goodpage you will get only content which has at least two labels, being 'superpage' and 'goodpage'.

If there are no pages matching any of the specified labels, then Confluence will ignore the labels and will list all recently updated pages, as well as showing a message, "These labels don’t exist and were ignored: xxx". This unexpected behaviour is noted in issue CONF-10167.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reverse Sort</strong> (reverse)</td>
<td>no</td>
<td>Use this parameter in conjunction with the <code>sort</code> parameter described below. Set <code>reverse=true</code> to change the sort from ascending to descending order. This parameter is ignored if the <code>sort</code> parameter is not specified.</td>
</tr>
<tr>
<td><strong>Show User Profile Pictures</strong> (showProfilePic)</td>
<td>no</td>
<td>Specify <code>showProfilePic=true</code> to display the profile pictures of the users who updated the content.</td>
</tr>
</tbody>
</table>
| **Sort By** (sort)                            | no      | Specify how the results should be sorted. To change the sort order from ascending to descending, use the `reverse` parameter described above. If this parameter is not specified, the sort order defaults to descending order based on the last modification date. Values:  
  - `creation` — Sort by the date on which the content was added.  
  - `title` — Sort alphabetically by title.  
  - `modified` — Sort by the date on which the content was last updated. |
| **Space(s)** (space) or (spaces)              | no      | This parameter allows you to filter content by space. The macro will display only the pages etc which belong to the space(s) you specify here. You can specify one or more space keys, separated by a comma or a space.  
  - To exclude content in a specific space, put a minus sign (-) immediately in front of that space key. For example: If you specify a space key of `-BADSPACE` you will get only content which is not in the BADSPACE.  
  - To indicate that the results must come from a specific space, put a plus sign (+) immediately in front of that space key. For example: If you specify a space key of `+GOODSPACE` you will get only content in GOODSPACE. (Note that this is not particularly useful, because each content item belongs to one space only. If you put a plus sign next to one space key and list other space keys too, the other space keys will be ignored.) Special values:  
    - `@self` — The current space.  
    - `@personal` — All personal spaces.  
    - `@global` — All global spaces.  
    - `@favorite` — The spaces you have marked as favourite.  
    - `@favourite` — The same as `@favorite` above.  
    - `@all` — All spaces in your Confluence site.  
    - `*` — The same as `@all` above.  
  When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs ~jbloggs@example.com`. |
| **Include these Content Types Only** (type) or (types) | no      | This parameter allows you to filter content by content type. The macro will display only the content of the type you specify here. You can specify one or more types, separated by a comma or a space.  
  To exclude content of a given content type, put a minus sign (-) immediately in front of that content type. For example: if you specify a content type of `-blogpost` you will get pages and all other content except for blog posts. Available values:  
    - `page` — Pages.  
    - `blogpost` or `news` — Blog posts, also known as news items.  
    - `comment` — Comments on pages and blog posts.  
    - `mail` — Email messages.  
    - `attachment` — Attachments.  
    - `status` — Status updates made by other users. |
| **Width of Table** (width)                    | no      | Specify the width of the macro display, as a percentage of the window width. |
Confluence 3.0 Documentation

<table>
<thead>
<tr>
<th>theme (theme)</th>
<th>no</th>
<th>'concise' with the heading 'Recently Updated'</th>
<th>Choose the appearance of this macro:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>• concise — the default list, showing the names of pages which were updated or commented on, the users who made the page modifications and time when the modifications occurred.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• social — lists recent modifications in reverse chronological order, but groups them by user into short time segments. A 'sub' list appears within each user's time segment, showing the names of pages which they updated or commented on and time when these modifications occurred.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• sidebar — lists recent updates in reverse chronological order, showing the names of pages which were updated or commented on and time when the page modifications occurred. This theme does not show authorship.</td>
</tr>
</tbody>
</table>

Examples

1. Include content from all spaces

The code below will show all the pages from all the spaces that have been recently updated:

```{recently-updated:space=all}```

2. Include content from specific spaces

Use the code below to specify the spaces for which you want to view recently updated content:

```{recently-updated:space=SPACEKEY1,SPACEKEY2}```

3. Specify the width of the display

Use the code below to limit the width of the display to 50% of the window:

```{recently-updated:width=50%}```

4. Filter content using labels

The code below will include recently updated content labelled with 'timesheets' or 'summaries', from the 'sales' and 'marketing' spaces, provided that the content is not labelled with 'obsolete':

```{recently-updated:space=sales,marketing|label=timesheets,summaries,-obsolete}```

5. Sort the results

Use the code below to sort the list of items by date last modified, with the most recent at the top:

```{recently-updated:sort=modified|reverse=true}```

6. Filter by content type

Use the code below to show pages only (not news items, comments or any other content type) and sort the list of items by date last modified, with the most recent at the top:

```{recently-updated:sort=modified|reverse=true|type=page}```

7. Change the number of results in the list

The code below changes the number of results listed (from the default value of 15) to 8:

```{recently-updated:maxResults=8}```

8. Display profile pictures

The code below will display the profile picture of the user who most recently updated the content.
9. Display recent comments, including profile pictures and text

The code below will display recent comments in the current space, showing the profile picture of the users who made the comments, plus the first line or two of the comment text.

This is the only way to ensure that the text of the comments is displayed, using this macro.

{recently-updated-dashboard:showProfilePic=true|types=comment}

Customising the wording

If you would like to change the wording displayed by the 'Recently Updated' macro, please refer to the document on modifying the Confluence interface text.

RELATED TOPICS

Recently Updated Dashboard Macro
Viewing Recently Updated Content
Working with Macros

Take me back to the Confluence User Guide.

RSS Feed Macro

The RSS feed macro embeds an RSS feed on a page. It can display the contents of external feeds, or of internal feeds generated by Confluence. To display blog posts or to list recently updated pages in a space, use the Feed Builder to create an internal feed, then render it using this macro.

CAUTION: Including unknown HTML inside a webpage is dangerous.

HTML inside an RSS feed can contain active scripting components. This means that it would be possible for a malicious attacker to present a user of your site with script that their web browser would believe came from you. Such code could be used, for example, to steal a user's authentication cookie and give the attacker their Confluence login password.

The RSS macro will only be available if it has been enabled by your Confluence administrator. Also, your Confluence Administrator can define a whitelist of trusted URLs. You will see an error message on the Confluence page, if the included URL is not in the whitelist.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples
  - 1. Limit the number of entries displayed
  - 2. Show only the RSS feed titles
  - 3. Hide the feeds titlebar
- Working Example
- How Up to Date is the Feed?
- What Happens to a Page Containing a Disallowed URL?
- Authentication
- Accessing Internal HTTPS Feeds

Usage with the Macro Browser

To insert the RSS feed macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the RSS feed macro and have added the required parameter values, click 'insert' to add it to your page.
Usage with the Wiki Markup Editor

Use the Wiki Markup editor to edit the page and insert the RSS macro. Replace the 'http://www.example.com/rss/' URL with your own feed link in this example:

```
{rss:url=http://www.example.com/rss/}
```

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSS Feed URL (url)</td>
<td>yes</td>
<td>none</td>
<td>The URL of the RSS feed link you want to show.</td>
</tr>
<tr>
<td>Maximum Number of Entries (max)</td>
<td>no</td>
<td>15</td>
<td>Limit the number of entries displayed.</td>
</tr>
<tr>
<td>Show Item Titles Only (showTitlesOnly)</td>
<td>no</td>
<td>false</td>
<td>Show only the titles of the news items, not the content.</td>
</tr>
<tr>
<td>Show Name/Title of RSS Feed (titleBar)</td>
<td>no</td>
<td>true</td>
<td>Hide the feeds title bar.</td>
</tr>
</tbody>
</table>

Examples

1. Limit the number of entries displayed

```
{rss:url=http://host.com/rss.xml|max=5}
```

2. Show only the RSS feed titles

```
{rss:url=http://host.com/rss.xml|showTitlesOnly=true}
```

3. Hide the feeds titlebar

```
{rss:url=http://host.com/rss.xml|titleBar=false}
```

Working Example

What you need to type:

```
{rss:url=http://www.abc.net.au/news/syndicate/breakingrss.xml|max=5|showTitlesOnly=true}
```

What you will get:

**ABC News: Breaking Stories [RSS]**
(Latest ABC News)
- Nanoparticles damage DNA remotely: study
- Stolen Generations linked to increased violence
- Texas military base gunman 'harassed'
- Indonesia extends Oceanic Viking’s stay
- HOG heaven revs up

How Up To Date is the Feed?
By default, the RSS Feed macro caches the feed results for 60 minutes before fetching the data again.

If you wish to change the default caching, use the `{cache}` macro to define how often the RSS Feed macro fetches the feed updates. You may want to set the cache to a longer period, so that your page loads faster. Or you may want to retrieve feed results more often, if you need to see the updates sooner. You will need to install the Cache plugin onto your Confluence site.

To enable caching:

1. Using the Confluence Repository, install the 'Scripting Plugin' and the 'Utilities Plugin'.
2. For each RSS macro that you wish to cache, surround your RSS macro with a Cache macro. For example, to cache feeds for 30 minutes:

   `{cache:refresh=30m}
   {rss:url=http://rss.news.yahoo.com/rss/stocks[max=5]}
   {cache}`

   The Cache plugin page provides more information on customising the cache behaviour.

What Happens to a Page Containing a Disallowed URL?

Your Confluence Administrator can set up a whitelist of allowed URLs. If this is the case, you may see an error on the pages which contain the RSS macro.

A user can add the RSS macro or the HTML-include macro to a Confluence page. The macro code includes a URL from which the content is drawn. When the page is displayed, Confluence will check the URL against the whitelist. If the URL is not allowed, Confluence will display an error message on the page.

The error message says that Confluence "could not access the content at the URL because it is not from an allowed source" and displays the offending URL. If the person viewing the page is a Confluence Administrator, they will also see a link to the Administration page where they can configure the URL whitelist.

Here is an example of the error message, including the link shown only to Confluence Administrators:

```
Could not access the content at the URL because it is not from an allowed source.
http://feathers.wordpress.com
Configure whitelist >>
```

Here is an example of the error message, but without the link.

```
Could not access the content at the URL because it is not from an allowed source.
http://feathers.wordpress.com
You may contact your site administrator and request that this URL be added to the list of allowed sources.
```

Authentication

Adding Login Information for Confluence Feeds

You can add your Confluence username and password to the feed URL, so that the RSS Feed Macro can log in to Confluence.

⚠️ Please note that if you do this, someone with access to your RSS newsreader configuration can read your password.

Private Feeds from External Sites

RSS feeds which require authentication cannot be accessed using the RSS Macro.

Accessing Internal HTTPS Feeds

This applies only to Confluence instances which have enabled HTTPS for all content. If your site is fully HTTPS, the RSS macro cannot access internal feeds. To enable the RSS macro to access internal feeds without affecting your HTTPS setup, enable local-only HTTP access:

1. Shut down Confluence.
2. Use the SSL guide to re-enable HTTP access to Confluence. This means that Confluence will be accessible via both HTTP and HTTPS.
3. Insert a firewall rule to redirect all HTTP requests not from the Confluence server to the equivalent HTTPS URL. This ensures that users will only be able to access Confluence via HTTPS, as intended. If you have still left HTTP access for attachments enabled (to
avoid the IE download bug) you must selectively enable those URLs as well.
4. Modify your Confluence RSS macro feed link to use the HTTP URL, and restart Confluence.

**RELATED TOPICS**

- Subscribing to RSS Feeds within Confluence
- Adding a username and password to Confluence RSS feeds
- Tracking Updates Overview
- Working with Macros
- Configuring a URL Whitelist

Return to the Confluence User Guide.

**Search Macro**

The Search macro searches your Confluence site based on search terms specified in the macro code, and displays the results on the wiki page.

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
  - Found 9 search result(s) for **my_query**.
  - Parameters
    - 1. Setting a limit to the number of search results displayed
    - 2. Specifying the key of the space you want to search
    - 3. Specifying the content type
    - 4. Specifying a time period in which the content was last modified
    - 5. Limiting the search results to content created or modified by a specific user

**Usage with the Macro Browser**

**To insert the search macro into a page using the Macro Browser,**

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the search macro and have added the required parameter values, click 'insert' to add it to your page.

**Usage with the Wiki Markup Editor**

In the example below, we assume that you want to search for all pages and other content types which contain the term 'my_query'.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>

Found 9 search result(s) for **my_query**.
### Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Search Terms</strong> <em>(query)</em></td>
<td>yes</td>
<td>none</td>
<td>The search terms which this macro will use to generate its results. You can refine your search query by using operators such as 'AND' and 'OR'. For example:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- In the macro browser <strong>Search Terms</strong> entry box: <em>my_query1 AND my_query2</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- In wiki markup editor: <code>{search:query=my_query1 AND my_query2}</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>For more information, take a look at the documentation on the Confluence search syntax.</td>
</tr>
<tr>
<td><strong>Maximum Number of Results</strong> (maxLimit)</td>
<td>no</td>
<td>no limit</td>
<td>Set a limit to the number of search results displayed.</td>
</tr>
<tr>
<td><strong>Restrict to this Space Key</strong> (spacekey)</td>
<td>no</td>
<td>all</td>
<td>Specify the key of the space you want to search in. Note that this is case sensitive.</td>
</tr>
<tr>
<td><strong>Content Type</strong> (type)</td>
<td>no</td>
<td>all</td>
<td>Specify the content type. The content types are: page, comment, blogpost, attachment, userinfo (the content of user profiles only), spacedesc (the content of space descriptions only) and mail.</td>
</tr>
</tbody>
</table>
| **Last Modified** (lastModified) | no | all | Specify a period of time in weeks, days, hours and/or minutes, to see the content modified within that time frame. For example:
- 2h 35m
- 3d 30m
These are the values you can use:
- w = weeks
- d = days
- h = hours
- m = minutes
If no time category is specified, Confluence assumes minutes. If you specify more than one time period (e.g. weeks and days), the periods must be separated by a space and they can come in any order. The time categories are not case sensitive e.g. ‘4d’ is the same as ‘4D’. |
| **Restrict to this Username** (contributor) | no | all | Specify the username of a Confluence user, to show only content created or updated by that user. |

1. **Setting a limit to the number of search results displayed**
Display a limit to the number of search results displayed.

```
{search:query=my_query|maxLimit=20}
```

2. **Specifying the key of the space you want to search**
Global space: Search within the Doctemp space only.

```
{search:query=my_query|spacekey=Doctemp}
```

Personal space: Search within jsmith’s space only.

```
{search:query=my_query|spacekey=jsmith}
```

3. **Specifying the content type**
Search within comments only.

```
{search:query=my_query|type=comment}
```

4. **Specifying a time period in which the content was last modified**
Search for content modified in the last one week and two days.

```
{search:query=my_query|lastModified=1w 2d}
```

5. **Limiting the search results to content created or modified by a specific user**
Search within content created or updated by jsmith only.

```
{search:query=my_query|contributor=jsmith}
```
Permissions
When a user views the page containing the Search macro, the search results will show only pages and other content types for which the user has 'View' permission.

RELATED TOPICS
Livesearch Macro
Searching Confluence
Working with Macros

Take me back to the Confluence User Guide.

Section Macro
The section macro allows you to define a section of a page in which you can insert one or more columns across the page.

To add sections and columns to a page:
1. Insert a pair of section macro elements to define the section of page that will contain your set of columns.
2. Within this pair of section macro elements, insert a pair of column macro elements. Repeat step 2 for each column you want to insert across this section of the page.

On this page:
- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

Usage with the Macro Browser
To insert the section macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the section macro and have added the required parameter values, click 'Insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{section:border=true}</td>
<td>Column one text goes here</td>
</tr>
<tr>
<td>(column)Column one text goes here (column)</td>
<td>Column two text goes here</td>
</tr>
<tr>
<td>(section)Column two text goes here (column)</td>
<td></td>
</tr>
</tbody>
</table>

Parameters
Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Show Border</td>
<td>no</td>
<td>false</td>
<td>Determines whether to draw a border around the section and columns.</td>
</tr>
</tbody>
</table>
Space Details Macro

The Space Details macro renders the space's details in a table within the page.

On this page:
- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

Usage with the Macro Browser

To insert the space details macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the space details macro, click 'Insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{space-details}</td>
<td>Name: Confluence Docs 3.0</td>
</tr>
<tr>
<td></td>
<td>Key: DOC</td>
</tr>
<tr>
<td></td>
<td>Home Page: Confluence Documentation Home</td>
</tr>
<tr>
<td></td>
<td>Created By: Mike Cannon-Brookes (Dec 17, 2003)</td>
</tr>
<tr>
<td></td>
<td>Space Labels: (None)</td>
</tr>
<tr>
<td></td>
<td>Team Labels: (None)</td>
</tr>
<tr>
<td></td>
<td>Description:</td>
</tr>
<tr>
<td></td>
<td>$action.spaceXHtmlDescription</td>
</tr>
</tbody>
</table>

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of Table (width)</td>
<td>no</td>
<td>100%</td>
<td>The width of the space details table, specified as a percentage (%) of the page width.</td>
</tr>
</tbody>
</table>
Spacegraph Macro

⚠️ The Spacegraph Macro requires the Graphviz Plugin

To use the Spacegraph macro, you will need to install the Graphviz plugin onto your Confluence site. This plugin is not shipped with Confluence by default, and is not officially supported by Atlassian.

- Please read more about supported and unsupported plugins.
- You can find more information about the Graphviz plugin on the plugin documentation page.

The Spacegraph macro displays a chart of all the pages in a space and the connections between them.

For details on composing diagrams, see the GraphViz documentation.

**Spacegraph Macro**

```
{spacegraph}
```

Optional Parameter

Specify the space by including its space key in the macro

```
{spacegraph:doctemp}
```

By default, the graph of the current space is shown.

**RELATED TOPICS**

Working with Macros

Take me back to Confluence User Guide

Spaces List Macro

The Spaces List Macro is used to display a list of spaces from within a page.

By default, Confluence lists the spaces from your current view of spaces on the Dashboard.

For each space listed, there is a link to browse the space, and to add a new page (if the user has permission to create pages).

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
  - Examples

**Usage with the Macro Browser**

To insert the spaces list macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the spaces list macro, click 'insert' to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{spaces-list}</td>
<td></td>
</tr>
<tr>
<td>Spaces: All</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Application Links 1.x</strong></td>
<td>Documentation for AppLinks version 1.x</td>
</tr>
<tr>
<td><strong>Application Links 2.0</strong></td>
<td>Documentation for AppLinks 2.0</td>
</tr>
<tr>
<td><strong>Application Links 2.1</strong></td>
<td>Documentation for the latest version of AppLinks</td>
</tr>
<tr>
<td><strong>Atlassian Developer Network</strong></td>
<td>For the community of developers modifying and extending JIRA &amp; Confluence.</td>
</tr>
<tr>
<td><strong>Atlassian Development</strong></td>
<td>Atlassian Developers. Because they're just too good to be kept hidden in an office in Sydney.</td>
</tr>
<tr>
<td><strong>Atlassian Documentation</strong></td>
<td>Information about and links to the Atlassian product documentation, including downloadable documentation</td>
</tr>
<tr>
<td><strong>Atlassian IDE Connectors</strong></td>
<td>Documentation for the Atlassian Connectors for Eclipse and IntelliJ IDEA</td>
</tr>
<tr>
<td><strong>Atlassian Integration Guide</strong></td>
<td>The ways your Atlassian applications work together and how you can make it happen</td>
</tr>
<tr>
<td><strong>Atlassian Knowledge Base</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Atlassian Partner Wiki</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Atlassian Presentations</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Atlassian Support</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Atlassian Training</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Atlassian t-shirt Competition</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Atlassian User Group</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Atlassian Webinars</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Bamboo 1.0</strong></td>
<td>Documentation for Bamboo 1.0</td>
</tr>
<tr>
<td><strong>Bamboo 1.1</strong></td>
<td>Documentation for Bamboo 1.1</td>
</tr>
<tr>
<td><strong>Bamboo 1.2</strong></td>
<td>Documentation for Bamboo 1.2</td>
</tr>
<tr>
<td><strong>Bamboo 2.0</strong></td>
<td>Documentation for Bamboo 2.0</td>
</tr>
<tr>
<td><strong>Bamboo 2.1</strong></td>
<td>Documentation for Bamboo 2.1</td>
</tr>
<tr>
<td><strong>Bamboo 2.2</strong></td>
<td>Documentation for Bamboo 2.2</td>
</tr>
<tr>
<td><strong>Bamboo 2.3</strong></td>
<td>Documentation for Bamboo 2.3</td>
</tr>
<tr>
<td><strong>Bamboo 2.4</strong></td>
<td>Documentation for Bamboo 2.4</td>
</tr>
<tr>
<td><strong>Bamboo Extensions</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Bamboo Knowledge Base</strong></td>
<td>Troubleshooting and support tips for Bamboo</td>
</tr>
<tr>
<td><strong>Clover 2.0</strong></td>
<td>Documentation archive for Clover 2.0</td>
</tr>
<tr>
<td><strong>Clover 2.1</strong></td>
<td>Documentation archive for Clover 2.1</td>
</tr>
</tbody>
</table>
Parameters

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<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope of spaces</strong></td>
<td>no</td>
<td>all</td>
<td>Specify the view from which spaces are listed. Available options are:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>∀ all — all spaces in the Confluence installation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>team — spaces grouped according to team labels.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>my — spaces which you have added to your favourites list.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>new — new spaces which have been created within the last 7 days.</td>
</tr>
<tr>
<td><strong>Width of List</strong></td>
<td>no</td>
<td>100%</td>
<td>Specify the width of the table. The width of the spaces list table, specified as a percentage (%).</td>
</tr>
</tbody>
</table>

Examples

**Specify the width of the table in which the spaces are listed**

```
{spaces-list:width=40%}
```
Specify the view from which spaces are listed

```
{spaces-list:team}
```

Replace 'team' with 'all', 'my' or 'new' to display all spaces, my spaces only or new spaces only.

**RELATED TOPICS**

Browsing a space
Creating a New Page
Working with Macros

Take me back to the Confluence User Guide.

**Table of Contents Macro**

The Table of Contents macro is documented on the CustomWare Atlassian Plugins website.

Due to an outstanding issue in the Table of Contents macro (CONF-10619), the Macro Browser's Refresh function does not render any parameter modifications. Currently, the rendering of parameter value modifications to the Table of Contents macro occurs only after the page is saved.

**Using HTML Heading Markup with the Table of Contents Macro**

The Table of Contents macro cannot handle HTML heading markup on its own. Hence, if you used the HTML and HTML Include macros to render HTML heading markup in a Confluence page, the Table of Contents macro will not create a contents list out of these headings. (For more information on about this issue, please refer to TOC-93.)

However, if you insert an HTML anchor into each HTML heading on your page (based on the following syntax), the Table of Contents macro will incorporate these headings into your contents list.

```
<h2><a name="pagename-headingname">Heading Name</a></h2>
```

The syntax for the anchor name is usually the page name and heading name separated by a hyphen, in which the page and heading names have all spaces removed and are converted to lowercase. If punctuation marks occur within a page or heading name, each mark should usually be converted to its URL escape code in the anchor name.

**Table of Contents Zone Macro**

The Table of Contents Zone macro is documented on the CustomWare Atlassian Plugins website.

Due to an outstanding issue in the Table of Contents Zone macro (CONF-10619), the Macro Browser's Refresh function does not render any parameter modifications. Currently, the rendering of parameter value modifications to the Table of Contents Zone macro occurs only after the page is saved.

**Using HTML Heading Markup with the Table of Contents Zone Macro**

The Table of Contents Zone macro cannot handle HTML heading markup on its own. Hence, if you used the HTML and HTML Include macros to render HTML heading markup in a Confluence page, the Table of Contents Zone macro will not create a contents list out of these headings. (For more information on about this issue, please refer to TOC-93.)

However, if you insert an HTML anchor into each HTML heading on your page (based on the following syntax), the Table of Contents Zone macro will incorporate these headings into your contents list.

```
<h2><a name="pagename-headingname">Heading Name</a></h2>
```

The syntax for the anchor name is usually the page name and heading name separated by a hyphen, in which the page and heading names have all spaces removed and are converted to lowercase. If punctuation marks occur within a page or heading name, each mark should usually be converted to its URL escape code in the anchor name.

**Tasklist Macro**
The Tasklist macro allows you to create and update a list of tasks on the wiki page. Users viewing the page can modify the tasks without putting the page into 'Edit' mode, provided they have the required permissions to modify the page.

Dynamic Tasklist 2 plugin is shipped with Confluence 2.8
The tasklist macro is supplied by the Dynamic Tasklist 2 plugin, which is bundled with Confluence version 2.8 and later. The new tasklist macro replaces the older tasklist and dynamictasklist macros.

On this page:
- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Editing the Task List while Viewing a Page
- Sorting the Tasks
- Viewing the Progress on Tasks Completed
- Editing the Wiki Markup for a Task List

Usage with the Macro Browser

To insert the tasklist macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the tasklist macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

To add a task list using the Wiki Markup Editor, you must first edit the page and then type the macro code:

{tasklist:NAME OF TASK LIST}

Here is an example:

What you need to type | What you will get
---|---
{tasklist:Planning a Holiday}| Planning a Holiday

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>no</td>
<td>'Task List'</td>
<td>The name of the task list. This is displayed as the title above the list of tasks. For example: <code>{tasklist:Things to Do}</code></td>
</tr>
<tr>
<td>(width)</td>
<td>no</td>
<td>530px</td>
<td>The width of the task list. For example, in Wiki Markup: `{tasklist:Things to Do</td>
</tr>
</tbody>
</table>
Editing the Task List while Viewing a Page

While viewing a page, you can change the tasks in a task list as follows:

- **Adding a task**: Type the task description in the text box under the list name, and click the 'Add' button.
- **Completing/completing a task**: Click the checkbox next to a task to mark the task as complete. The task name will become a lighter color and the progress bar will be updated. Click the checkbox again to mark the task as uncompleted. You can also click the 'Uncheck all' button to mark all tasks as uncompleted.
- **Editing a task**: Move your mouse to hover your cursor over the task. Click the edit icon (pencil) that appears to the right of the task. The task name will become editable and the edit icon will be replaced with a save icon. Make your change and press the 'Enter' key to save or click the save icon.
- **Deleting a task**: Move your mouse to hover your cursor over the task. Click the delete icon (trash can) that appears to the right of the task.
- **Viewing details of a task**: Click the arrow icon to the left of the task name. The task details will open in an expanded view.
- **Locking a task**: Provided that the `enableLocking` parameter has been set to 'true', you can lock the task to prevent the task from being edited, deleted, or otherwise changed.

Once the task details are visible, you have more options:

- **Changing the priority**: Click the appropriate radio button — 'High', 'Medium' or 'Low'.
- **Assigning the task**: Change the assignee of the task by typing in or searching for a username.

### Screenshot: Task List showing Task Details

**Planning a Holiday**

- Book tickets
- Check passport expiry
- Apply for visa
- Buy suitcases

**Priority:**
- High
- Medium
- Low

**Assigned To:** smaddox

**Created:** Mar 28, 2008

**Sort by:** Custom

### Sorting the Tasks

There are two ways to sort the entries in the task list:

- The 'Sort by' dropdown list.
- Drag and drop.

Using the 'Sort by' dropdown list to sort the tasks:

- Click the 'Sort by' dropdown list and select one of the options:
  - **Custom**: This is the default option.
  - **Priority**: Sort the list in order of the priority you have allocated to each task.
  - **Date Created**: Sort the list in order of the dates upon which the tasks were created.
  - **Completed**: Move all completed tasks to the bottom or top of the list.
  - **Name**: Sort the list in order of the task names.
  - **Assignee**: Sort the list in order of the usernames assigned to the tasks.
- When you have selected a sort order, a new ascending/descending sequence icon appears to the right of the 'Sort by' box. Click the ascending/descending sequence icon to reverse the sort order.

Dragging and dropping a task into a new position:
• Click the ‘drag me’ handle to the right of the task name.
• Holding down the mouse button, drag the task up or down the list. Make sure the task is positioned to the left of the existing tasks. A space will open and you will be able to drop the task into its new position.

**Viewing the Progress on Tasks Completed**

The bar at the top of the task list displays two different colours, indicating the percentage of tasks completed.

_Screenshot: Progress Bar on Task List_

![Screenshot of task list with progress bar]

**Editing the Wiki Markup for a Task List**

The data for the task list is stored in the Confluence page. Most people will find it easier to add or modify tasks while viewing the page. But if you want to edit or even create the task list directly, you can do so by editing the page itself. Here is an example, showing the Wiki Markup for the above task list:

```
{tasklist:Planning a Holiday}
<table>
<thead>
<tr>
<th>Completed</th>
<th>Priority</th>
<th>Locked</th>
<th>CreatedDate</th>
<th>CompletedDate</th>
<th>Assignee</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>M</td>
<td>F</td>
<td>1206677926204</td>
<td></td>
<td>smaddox</td>
<td>Book tickets</td>
</tr>
<tr>
<td>F</td>
<td>H</td>
<td>F</td>
<td>1206677938246</td>
<td></td>
<td>smaddox</td>
<td>Check passport expiry</td>
</tr>
<tr>
<td>F</td>
<td>M</td>
<td>F</td>
<td>1206677946737</td>
<td></td>
<td>smaddox</td>
<td>Apply for visa</td>
</tr>
<tr>
<td>F</td>
<td>M</td>
<td>F</td>
<td>1206677954490</td>
<td></td>
<td>smaddox</td>
<td>Buy suitcases</td>
</tr>
</tbody>
</table>
```

**RELATED TOPICS**

Working with Macros

Take me back to the Confluence User Guide.

**Tip Macro**

The Tip Macro allows you to highlight a helpful tip on a Confluence page.

It creates a green-coloured box surrounding your text as shown below.

_Tip Macro Example_
This text is rendered inside the tip macro.

**On this page:**

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

**Usage with the Macro Browser**

To insert the tip macro into a page using the Macro Browser,
1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the tip macro, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{tip}Join the Confluence mailing-list!{tip}</td>
<td><img src="icon" alt="Join the Confluence mailing-list!" /></td>
</tr>
</tbody>
</table>

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *bracketed* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional Title <em>(title)</em></td>
<td>no</td>
<td>none</td>
<td>The title of the tip. If specified, will be displayed in bold next to the icon.</td>
</tr>
<tr>
<td>Show Tip Icon <em>(icon)</em></td>
<td>no</td>
<td>true</td>
<td>If &quot;false&quot;, the icon will not be displayed.</td>
</tr>
</tbody>
</table>

RELATED TOPICS

Working with Macros

Take me back to the Confluence User Guide.

Userlister Macro

The Userlister macro displays a list of users registered in Confluence, based on their group membership.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Examples
  - Listing all Users
  - Specifying a Group
  - Listing Only Online Users

Usage with the Macro Browser

To insert the userlister macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the userlister macro, click 'insert' to add it to your page.
Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>

### Group: All Users

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group(s)</td>
<td>yes</td>
<td>none</td>
<td>Use parameter name 'group' or 'groups' to specify one or more groups whose Confluence users you want to list, using a comma-separated list of group names. To see all users registered in a Confluence installation, specify an asterisk ('*') for this parameter's value.</td>
</tr>
<tr>
<td>Display Online/Offline Users</td>
<td>no</td>
<td>none</td>
<td>Specify 'true' to generate a list of online users. Specify 'false' to generate a list of offline users.</td>
</tr>
</tbody>
</table>

#### Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

- **Bold** Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

#### Examples

**Listing all Users**

Here is an example that lists all the users registered on your Confluence site.

```plaintext
{userlister:groups=*}
```

**Specifying a Group**

Here is an example that lists the users that belong to the group 'my-staff'.

```plaintext
{userlister:groups=my-staff}
```

**Listing Only Online Users**

In order to make this feature functional, a System Administrator needs to enable the User Log In Listener for your Confluence site.

Here is an example that lists all currently online users in the 'my-staff' group.

```plaintext
{userlister:groups=my-staff|online=true}
```
List of online users can be misleading

When the parameter ‘online=true’ is used, Confluence uses a context listener to generate the list of online users. A context listener is a J2EE term for something that listens for events in the application server. We listen for session open and close events, so a user is ‘online’ if they have a session on the application server. Some application servers don’t correctly despatch close events for sessions – in these cases, the list of online users may be misleading.

RELATED TOPICS

Working with Macros
Configuring the userlister Macro in the Administrators Guide

Take me back to the Confluence User Guide.

User Status List Macro

The User Status List macro displays a history of any Confluence user's Status Updates on your Confluence page or blog. This is the same history that appears in the user's Status Updates view.

Screenshot: Example Usage of the User Status List Macro

<table>
<thead>
<tr>
<th>History of my Status Updates</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Working on final User Profile updates. “</td>
</tr>
<tr>
<td>Clear</td>
</tr>
<tr>
<td>“Moving onto Networks. “</td>
</tr>
<tr>
<td>Delete</td>
</tr>
<tr>
<td>“Well... Just one last status update. “</td>
</tr>
<tr>
<td>Delete</td>
</tr>
<tr>
<td>“Now venturing off onto other topics. “</td>
</tr>
<tr>
<td>Delete</td>
</tr>
<tr>
<td>“Now working on User Status Updates. At last... “</td>
</tr>
<tr>
<td>Delete</td>
</tr>
</tbody>
</table>

On this page:
- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

Usage with the Macro Browser

To insert the User Status List macro into a page using the Macro Browser,
1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the User Status List macro and have added the required parameter values, click 'insert' to add it to your page.

Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>Example of what you will get</th>
</tr>
</thead>
</table>
| h5. History of my Status Updates (status-list:username=gaskell) | **History of my Status Updates**

> Working on final User Profile updates.

> Clear | Delete | about 2 hours ago

> Moving onto Networks.

> Delete | May 06

> Well... Just one last status update.

> Delete | May 01

> Now venturing off onto other topics.

> Delete | April 30

> Now working on User Status Updates. At last...

> Delete | April 30

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required in Wiki Markup?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username</td>
<td>yes</td>
<td>none</td>
<td>The username of the Confluence user whose history of Status Updates you wish to show.</td>
</tr>
</tbody>
</table>

If you wish to list status updates made by more than just one user, you can use the **recently updated macro** in conjunction with the following parameter-value combinations:

- Include these Content Types Only — **status**
- Author(s) by username — the user(s) whose status updates you want to include in the list. If you leave this field blank, the status updates of all users will be included.

**RELATED TOPICS**

- Working with Macros
View File Macro

The view file macro allows you to embed an Office or PDF document into your Confluence page. First attach the document to a wiki page and then use the view file macro to display the document's content.

When viewing the page, users will see the content of the Office document. Users do not need to have Office installed, in order to see the content of the Office document.

Where applicable, users will be able to open the document for editing in their Office application.

This is just one of the ways Confluence can interact with Office documents. For an overview of all Office Connector features, please refer to Working with the Office Connector.

The view file macro provides several unique parameter options for some of the types of files it handles. Hence, to simplify its use, the view file macro is separated into the following four macros in the macro browser:

- Office Word
- Office Powerpoint
- Office Excel
- View PDF

On this page:

- Basic Usage without the Macro Browser
- Example of Usage
- Prerequisites for Viewing and Displaying Office Documents
- Displaying a Word Document in Confluence
  - Usage with the Macro Browser (doc)
  - Basic Usage with the Wiki Markup Editor (doc)
  - Parameters (doc)
  - Editing the Word Document
- Displaying a PowerPoint Presentation in Confluence
  - Usage with the Macro Browser (ppt)
  - Basic Usage with the Wiki Markup Editor (ppt)
  - Parameters (ppt)
  - Viewing the Slide Show and Editing the Presentation
- Displaying an Excel Spreadsheet in Confluence
  - Usage with the Macro Browser (xls)
  - Basic Usage with the Wiki Markup Editor (xls)
  - Parameters (xls)
  - Editing the Excel Spreadsheet
- Displaying a PDF Document in Confluence
  - Usage with the Macro Browser (pdf)
  - Basic Usage with the Wiki Markup Editor (pdf)
  - Parameters (pdf)
  - Viewing the PDF Document
- Troubleshooting

Basic Usage without the Macro Browser

To use the view file macro without the macro browser, enter it directly in the Wiki Markup or Rich Text editors based on one of the following examples, along with any parameters (described below) that suit the type of file.

```
{viewdoc:name=my document.doc}
{viewppt:name=my presentation.ppt}
{viewxls:name=my spreadsheet.xls}
{viewpdf:name=my document.pdf}
```

**Editing 'older style' {viewfile} macros**

In Confluence 3.0, the {viewfile} macro's syntax was changed to be file type-specific (as indicated by the examples above). If your Confluence site was upgraded to Confluence 3.0 and you had existing content which used the 'older style' syntax for this macro ({viewfile}), you can still edit these macros via the macro browser. Just place your cursor inside the viewfile macro's braces and click the macro browser icon to edit it. The 'edit only' version of the view file macro will open in the macro browser, allowing you to edit its specific parameters.

Example of Usage

The live example below shows how to display an Excel spreadsheet on a Confluence page. The Excel spreadsheet is attached to this
Prerequisites for Viewing and Displaying Office Documents

If you want to make use of the View File macro or to view Office documents attached to a wiki page, you need the setup described below.

**Browsers and Flash Player**

You can use any browser to view an Office document on a wiki page, provided that you have installed Adobe Flash Player version 9 or later. You do not need to have an Office desktop application installed on your computer, in order to view Office documents in Confluence.

**Document Types**

To be displayed in Confluence, the document needs to be valid Microsoft Office 97-2003 document, of the following types:

- .doc
- .xls
- .ppt
- .pdf

If you are using OpenOffice to create and edit the documents, you will need to save your document in Microsoft Office 97-2003 format before attaching it to a Confluence page.

Above are the prerequisites for viewing or displaying Office documents in Confluence. For a full list of Office Connector prerequisites and limitations, please refer to:

- Office Connector Prerequisites
- Office Connector Limitations and Known Issues

**Displaying a Word Document in Confluence**

**Usage with the Macro Browser (doc)**

To insert the Office Word macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you have found the Office Word macro and have added the required parameter values, click 'insert' to add it to your page.

**Basic Usage with the Wiki Markup Editor (doc)**

```markdown
{viewdoc:name=my document.doc}
```

**Parameters (doc)**

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

<table>
<thead>
<tr>
<th>Task</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>5</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>File Name</strong>&lt;br&gt;(name)</td>
<td>yes</td>
<td>none</td>
<td>The file name of the Office Word document to be displayed. The document must be attached to a wiki page on your Confluence site.</td>
</tr>
<tr>
<td><strong>Page Name</strong>&lt;br&gt;(page)</td>
<td>no</td>
<td>The page which contains the {viewdoc} macro</td>
<td>Enter a page name, if you wish to display a document which is attached to another Confluence page. For example:</td>
</tr>
<tr>
<td><strong>Space Key</strong>&lt;br&gt;(space)</td>
<td>no</td>
<td>The space of the page which contains the {viewdoc} macro</td>
<td>Enter a space key, if you wish to display a document which is attached to a page in another Confluence space. For example:</td>
</tr>
<tr>
<td><strong>Date</strong>&lt;br&gt;(date)</td>
<td>no</td>
<td>none</td>
<td>If the Page Name refers to a blog post instead of a conventional page, enter the date of the post in the form <code>mm/dd/yyyy</code>.</td>
</tr>
</tbody>
</table>

**Editing the Word Document**

When viewing a wiki page that displays an attached Office document, you can launch your Office editor directly from Confluence.

- Move your mouse pointer to the top of the document embedded in the Confluence page, until the hidden title bar appears. (See the screenshot below.)
- Click the title bar.
- Confirm your action and log in as prompted.
- The Office document will open in your Office application. Make any necessary changes, then save the document. It will be saved back into Confluence.

**Screenshot: The title bar showing 'document.doc' above an embedded Office document**

You will find detailed instructions in **Editing an Office Document from Confluence**.

**Displaying a PowerPoint Presentation in Confluence**

You can display an PowerPoint presentation on a Confluence page. By default, the presentation will be displayed as a dynamic slide show, using Adobe Flash Player. You can also choose to display just one of the slides as a static JPEG image.

**Usage with the Macro Browser (ppt)**

To insert the Office Powerpoint macro into a page using the Macro Browser,
1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you have found the Office Powerpoint macro and have added the required parameter values, click 'insert' to add it to your page.

Basic Usage with the Wiki Markup Editor (ppt)

```
{viewppt:name=my presentation.ppt}
```

Parameters (ppt)

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Name <em>(name)</em></td>
<td>yes</td>
<td>none</td>
<td>This file name of the Office Excel document to be displayed. The document must be attached to a wiki page on your Confluence site.</td>
</tr>
<tr>
<td>Height <em>(height)</em></td>
<td>no</td>
<td></td>
<td>Specify the height of the display, in pixels (default) or as a percentage of the window's height. For example, to specify a height of 200 pixels:</td>
</tr>
</tbody>
</table>
| | | | ```
{viewppt:name=my presentation.ppt|height=200}
``` |
| | | | This code also specifies a height of 200 pixels: |
| | | | ```
{viewppt:name=my presentation.ppt|height=200px}
``` |
| | | | This code specifies a height of 10 percent of the window’s height: |
| | | | ```
{viewppt:name=my presentation.ppt|height=10%}
``` |
| Page Name *(page)* | no | The page which contains the {viewppt} macro | Enter a page name, if you wish to display a document which is attached to another Confluence page. For example: |
| | | | ```
{viewppt:name=my presentation.ppt|page=Sample Page}
``` |
| Slide Number *(slide)* | no | none | Specify the number of the slide which you want displayed on the Confluence page, starting with '0' for the first slide. Instead of a slide show, the page will display just the single slide represented as a JPEG image. |
| Space Key *(space)* | no | The space of the page which contains the {viewppt} macro | Enter a space key, if you wish to display a document which is attached to a page in another Confluence space. For example: |
| | | | ```
{viewppt:name=my presentation.ppt|space=DOC|page=Sample Page}
``` |
Confluence 3.0 Documentation

| Width (width) | no | Specify the width of the display, in pixels (default) or as a percentage of the window's width. For example, to specify a width and height of 200 pixels:
| {viewppt:name=my presentation.ppt|width=200|height=200} |
| This code also specifies a width and height of 200 pixels:
| {viewppt:name=my presentation.ppt|width=200px|height=200px} |
| This code specifies a width of 10 percent of the window's width:
| {viewppt:name=my presentation.ppt|width=10%} |

| Date (date) | no | none |
| If the Page Name refers to a blog post instead of a conventional page, enter the date of the post in the form mm/dd/yyyy.

Viewing the Slide Show and Editing the Presentation

When you view the PowerPoint presentation on a Confluence page, options on the bottom frame of the slide show allow you to:

- Download the presentation and save it onto your computer.
- Edit the presentation in your Office application. You will find detailed instructions in Editing an Office Presentation from Confluence.
- Move to the first, previous, next and last slides in the presentation. Or enter a slide number to move directly to that slide.
- Refresh the display.
- Open the presentation in full-screen mode. To return to normal viewing mode, press the escape key (Esc) on your keyboard.

Screenshot: PowerPoint presentation embedded on a Confluence page
Displaying an Excel Spreadsheet in Confluence

Usage with the Macro Browser (xls)

To insert the Office Excel macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you have found the Office Excel macro and have added the required parameter values, click 'insert' to add it to your page.

Basic Usage with the Wiki Markup Editor (xls)

{viewxls:name=my spreadsheet.xls}

Parameters (xls)

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in Bold text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
</table>

1501
**File Name**  
*name*  
**yes**  
none  
This is the file name of the document to be displayed. The document must be attached to a wiki page on your Confluence site.

**Last Column**  
*col*  
**no**  
Last column with content  
Enter the number of the last column you want displayed, starting from '0' as the first column. For example, the following code will show the first 3 rows and the first 3 columns:

```
{viewxls:name=my spreadsheet.xls|col=2|row=2}
```

**Show Grid?**  
*grid*  
**no**  
true  
Select the check box in the macro browser (true in Wiki Markup) to show grid lines around each cell of the Excel spreadsheet. Clear the check box in the macro browser (false in Wiki Markup) to hide these grid lines.

**Page Name**  
*page*  
**no**  
The page which contains the {viewxls} macro  
Enter a page name, if you wish to display a document which is attached to another Confluence page. For example:

```
{viewxls:name=my spreadsheet.xls|page=Sample Page}
```

**Last Row**  
*row*  
**no**  
Last row with content  
Enter the number of the last row you want displayed, starting from '0' as the first row. For example, the following code will show the first 3 rows and the first 3 columns:

```
{viewxls:name=my spreadsheet.xls|col=2|row=2}
```

**Worksheet Name**  
*sheet*  
**no**  
The first worksheet in the spreadsheet  
Enter the name of the worksheet that you want displayed.

**Space Key**  
*space*  
**no**  
The space of the page which contains the {viewxls} macro  
Enter a space key, if you wish to display a document which is attached to a page in another Confluence space. For example:

```
{viewxls:name=my spreadsheet.xls|space=DOC|page=Sample Page}
```

**Date**  
*date*  
**no**  
none  
If the **Page Name** refers to a blog post instead of a conventional page, enter the date of the post in the form **mm/dd/yyyy**.

### Editing the Excel Spreadsheet

When viewing a wiki page that displays an attached Office spreadsheet, you can launch your Office editor directly from Confluence.

- Move your mouse pointer to the top of the spreadsheet embedded in the Confluence page, until the hidden title bar appears. (See the screenshot below.)
- Click the title bar.
- Confirm your action and log in as prompted.
- The spreadsheet will open in your Office application. Make any necessary changes, then save the spreadsheet. It will be saved back into Confluence.

*Screenshot: The title bar showing 'spreadsheet.xls' above an embedded Excel spreadsheet*
1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you have found the View PDF macro and have added the required parameter values, click 'Insert' to add it to your page.

**Basic Usage with the Wiki Markup Editor (pdf)**

```
{viewpdf:name=my_document.pdf}
```

**Parameters (pdf)**

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Name</td>
<td>yes</td>
<td>none</td>
<td>This is the file name of the document to be displayed. The document must be attached to a wiki page on your Confluence site.</td>
</tr>
<tr>
<td>Page Name</td>
<td>no</td>
<td>The page which contains the {viewpdf} macro</td>
<td>Enter a page name, if you wish to display a document which is attached to another Confluence page. For example:</td>
</tr>
<tr>
<td>Space Key</td>
<td>no</td>
<td>The space of the page which contains the (viewpdf) macro</td>
<td>Enter a space key, if you wish to display a document which is attached to a page in another Confluence space. For example:</td>
</tr>
</tbody>
</table>
Viewing the PDF Document

When you view the PDF document on a Confluence page, it is displayed as a slide show. Options on the bottom frame of the slide show allow you to:

- Download the PDF file and save it onto your computer.
- Move to the first, previous, next and last pages in the document. Or enter a page number to move directly to that page.
- Refresh the display.
- Open the document in full-screen mode. To return to normal viewing mode, press the escape key (‘Esc’) on your keyboard.

Screenshot: PDF document embedded on a Confluence page

Troubleshooting

Problems? Please refer to our guide to the Office Connector limitations and known issues.

RELATED TOPICS

- Editing a Confluence Page in an Office Application
- Edit in Word Link Macro
- Working with the Office Connector
- Working with Macros

Take me back to the Confluence User Guide.

Warning Macro

The Warning Macro allows you to highlight a warning note on a Confluence page.

It creates a red-coloured box surrounding your text as shown below.
**Warning Macro Example**
This text is rendered inside the warning macro.

---

**On this page:**
- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters

**Usage with the Macro Browser**

To insert the warning macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'insert' to put the macro into the page.

Once you've found the warning macro and have added the required parameter values, click 'insert' to add it to your page.

**Usage with the Wiki Markup Editor**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>{warning}Insert warning message here! {warning}</td>
<td><img src="warning" alt="Insert warning message here!" /></td>
</tr>
</tbody>
</table>

**Parameters**

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold text**, while their equivalents in wiki markup are indicated in *(bracketed)* text. If the latter is not shown, then in wiki markup, the parameter's name should be omitted and only its value should be added immediately after the colon symbol (:).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required?</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional Title</td>
<td>no</td>
<td>none</td>
<td>The title of the warning note. If specified, will be displayed in bold next to the icon.</td>
</tr>
<tr>
<td>(title)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Show Warning Icon</td>
<td>no</td>
<td>true</td>
<td>If &quot;false&quot;, the icon will not be displayed.</td>
</tr>
<tr>
<td>(icon)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**RELATED TOPICS**

- Working with Macros

Take me back to the [Confluence User Guide](#).

**Web-Widget Macro**

The **Web-Widget** macro is just another name for the **Widget macro**.

Confluence supports `web-widget` as an alias for `widget`. Your **System Administrator** can enable or disable one or both these macro names. The alias is useful for Confluence sites which use Adaptavist's **Community Bubbles plugin**, to avoid conflict with the 'widget' macro supplied by that plugin.

If the `web-widget` alias is enabled on your Confluence site, you can use `web-widget` instead of `widget` in all the examples given in the page about the **Widget macro**.

**RELATED TOPICS**
Welcome Message macro

The **Welcome Macro** allows you to include the Confluence site welcome message in your page.

The welcome message is configured by a **Confluence administrator** from the **Administration Console**.

### Usage with the Wiki Markup Editor

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>(welcome-message)</td>
<td>Confluence is the enterprise wiki designed to make it easy for you and your team to share information with each other and with the world. This installation of Confluence hosts Atlassian product documentation. You can read and add comments here, but write-access is limited. For information on Confluence please check out the feature tour, our competitive pricing or try a free 30-day evaluation Alternatively, experiment with our public Confluence Sandbox installation, home to our popular Demonstration Space. Atlassian produces agile development tools, including the bug tracker (JIRA), an agile project management tool (GreenHopper), a source code insight tool (FishEye), a code review tool (Crucible), a continuous integration server (Bamboo) and more.</td>
</tr>
</tbody>
</table>

### Parameters

This macro accepts no parameters.

**RELATED TOPICS**
Working with Macros

Take me back to the Confluence User Guide.

Widget Macro

The Widget macro, or Widget Connector, allows you to embed multi-media content from other web sites into your Confluence page.

It supports content such as:

- Gadgets and other widgets: Google Gadgets, Widgetbox.
- Videos: YouTube, MySpace Video, Google Video, Yahoo Video, Dailymotion, Episodic, Vimeo, Metacafe, blip.tv, Viddler.
- Photos and images: Flickr, Skitch.com.
- Micro-blogging: Twitter, FriendFeed, BackType.
- Documents and presentations: SlideShare, SlideRocket, Scribd, presentations on Google Docs.
- Calendars: Google Calendar.
- Forms and online databases: Wufoo HTML Form Builder, Dabble DB.

On this page:

- Usage with the Macro Browser
- Usage with the Wiki Markup Editor
- Parameters
- Live Example of Flickr Photos
- Live Example of Google Gadget
- More Examples of Macro Code
- About the Web-Widget and Widget Macros
- Troubleshooting

Usage with the Macro Browser

To insert the Widget macro into a page using the Macro Browser,

1. Open your desired Confluence page, then click the 'Edit' button. The 'Edit Page' mode opens.
2. Next, click the Macro Browser icon on the editor toolbar. The Macro Browser will open in the middle of the screen.
3. In the Macro Browser, type the name of your desired macro into the search box at the top right of the window. Macros with a matching name will appear in the centre pane. Click on the desired macro to see its options screen. Here, you can set the macro parameters then click 'Insert' to put the macro into the page.

Once you've found the Widget macro and have added the required parameter values, click 'Insert' to add it to your page.

Usage with the Wiki Markup Editor

Just type the word 'widget' in curly brackets, and give it the URL (web address) of the thing you want to display.

```
{widget:url=http://example.com/my-location}
```

If the web-widget alias is enabled on your Confluence site, you can use web-widget instead of widget. See below.

Parameters

Parameters are settings for Confluence macros that allow the user to control their content or presentation. The table below lists relevant parameters for this macro.

Parameter names are displayed differently in the macro browser interface and in wiki markup. Below, parameter names used in the macro browser are indicated in **Bold** text, while their equivalents in wiki markup are indicated in (bracketed) text. If the latter is not shown, then in wiki markup, the parameter’s name should be omitted and only its value should be added immediately after the colon symbol (:)..

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Required</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Sites</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widget URL</td>
<td>yes</td>
<td></td>
<td>This is the URL provided by the external web site for embedding content from</td>
</tr>
<tr>
<td>(url)</td>
<td></td>
<td></td>
<td>that web site onto another web page.</td>
</tr>
<tr>
<td>Pixel Height (Value Only) (height)</td>
<td>no</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specify the height of the display, in pixels (default) or as a percentage of the window’s height. For example, to specify a height of 200 pixels:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="http://www.flickr.com/photos/tags/atlassian/height=200" alt="Code Example" /></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This code also specifies a height of 200 pixels:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="http://www.flickr.com/photos/tags/atlassian/height=200px" alt="Code Example" /></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This code specifies a height of 10 percent of the window’s height:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="http://www.flickr.com/photos/tags/atlassian/height=10%25" alt="Code Example" /></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pixel Width (Value Only) (width)</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify the width of the display, in pixels (default) or as a percentage of the window’s width. For example, to specify a width and height of 200 pixels:</td>
<td></td>
</tr>
<tr>
<td><img src="http://www.flickr.com/photos/tags/atlassian/width=200height=200" alt="Code Example" /></td>
<td></td>
</tr>
<tr>
<td>This code also specifies a width and height of 200 pixels:</td>
<td></td>
</tr>
<tr>
<td><img src="http://www.flickr.com/photos/tags/atlassian/width=200pxheight=200px" alt="Code Example" /></td>
<td></td>
</tr>
<tr>
<td>This code specifies a width of 10 percent of the window’s width:</td>
<td></td>
</tr>
<tr>
<td><img src="http://www.flickr.com/photos/tags/atlassian/width=10%25" alt="Code Example" /></td>
<td></td>
</tr>
</tbody>
</table>

**Live Example of Flickr Photos**

This example shows the Widget macro in action. It displays all photos from Flickr with the tag ‘Atlassian’.

**What You Need to Type**

```
{widget:url=http://www.flickr.com/photos/tags/atlassian/height=200}
```

**What You Will Get**

**Live Example of Google Gadget**

This example shows the Widget macro in action. It lets you play with a Google Gadget, Gadzi’s Monkey Virtual Pet.

**What You Need to Type**

```
{widget:url= http://www.google.com/ig/adde?synd=open&amp;source=ggyp&amp;moduleurl=www.gadzi.com/gadgets/monkey.xml|width=250}
```

**What You Will Get**

**More Examples of Macro Code**

**Google Gadgets**

You will need to find the URL for the Google Gadget you want to display.

Here is one way to find a gadget’s URL:

1. Go to the Google Gadgets directory.
2. Find the gadget you want then click its name, such as 'Spider'.
3. The gadget's summary page will open. Copy the URL from your browser's address bar. The URL looks something like this one:

```
http://www.google.com/ig/directory?synd-open&num=24&url=
http://abowman.googlepages.com/spider.xml&amp;output=html
```

4. Paste the URL into the Widget macro code on your Confluence page.

You can also use the URL of the 'add gadget' page. The page is called 'Add "gadgetx" to your iGoogle page':

1. There are a couple of ways to get to the 'add gadget' page:
   - Click a '+Google' button underneath the gadget when displayed on a page somewhere.
   - Or click 'Add Stuff' on your iGoogle page.
2. Copy the URL from your browser's address bar. The URL would look something like this one:

```
http://www.google.com/ig/adde?synd-open&
;source=ggyp&amp;moduleurl=abowman.googlepages.com/spider.xml
```

Here is an example of the Widget macro code for embedding a Google Gadget:

```
{widget:url=http://www.google.com/ig/adde?synd-open&
;source=ggyp&amp;moduleurl=abowman.googlepages.com/spider.xml}
```

**Widgetbox widgets**

You will need to find the URL for the Widgetbox widget you want to display.

Here is one way to find a widget's URL:

1. Ensure you are logged in to Widgetbox and that you are viewing the Widgetbox Gallery.
2. Find the widget you want then click its name, such as 'cyber-pet'.

3. The widget's summary page will open. Within the Get Widget section, click the Atlassian Confluence icon. The Widgetbox Add to Confluence dialog box appears, containing the URL required for the Widget Macro.
   - If you cannot see this icon, click the more... link to reveal it.
4. In the Widgetbox Add to Confluence dialog box, click the Copy button.
5. Copy the URL from your browser's address bar. The URL looks something like this one:

```
http://widgetbox.com/confluence/b8327e33-c8eb-4a38-b842-fba86ffdd28
```

6. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a Widgetbox widget:

```
{widget:url=http://widgetbox.com/confluence/b8327e33-c8eb-4a38-b842-fba86ffdd28}
```

**YouTube**

You will need to find the URL for the YouTube video that you want to display.

To find a YouTube video's URL:

1. Go to YouTube and search for the video you want.
2. Click the title of the video, such as 'Wikis in Plain English'.
3. The video's summary page will open. Copy the URL from your browser's address bar. The URL looks something like this one:

```
http://au.youtube.com/watch?v=-dnL00TdmLY
```

4. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a YouTube video:

```
{widget:url=http://au.youtube.com/watch?v=-dnL00TdmLY}
```
**MySpace Videos**

You will need to find the URL for the MySpace video that you want to display.

**To find a MySpace video’s URL:**

1. Go to [MySpace Video](http://www.myspace.com) and search for the video you want.
2. Click the title of the video, such as 'Glacier Creek Confluence Time Lapse'.
3. The video’s summary page will open. Copy the URL from your browser’s address bar. The URL looks something like this:

   ![MySpace Video URL Example](http://vids.myspace.com/index.cfm?fuseaction=vids.individual&videoid=3376248&searchid=20c789f6-1ae9-459a-bfec-75efcfc2847c)

4. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a MySpace video:

```html
{widget:url=http://vids.myspace.com/index.cfm?fuseaction=vids.individual&videoid=3376248&searchid=20c789f6-1ae9-459a-bfec-75efcfc2847c}
```

**Google Video**

You will need to find the URL for the Google video that you want to display.

**To find a Google video’s URL:**

1. Go to [Google Video](http://www.youtube.com) and search for the video you want.
2. Click the title of the video, such as 'An Evening With Wiki Inventor Ward Cunningham in Conversation'.
3. The video’s summary page will open. Copy the URL from the address bar of your browser. The URL looks something like this:

   ![Google Video URL Example](http://video.google.com/videoplay?docid=-7739076742312910146&ei=nJAfSbrzPIWogwOhv_GKDA&q=An+Evening+With+Wiki+Inventor+Ward+Cunningham+in+Conversation&emb=1)

4. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a Google video:

```html
{widget:url=http://video.google.com/videoplay?docid=-7739076742312910146&ei=nJAfSbrzPIWogwOhv_GKDA&q=An+Evening+With+Wiki+Inventor+Ward+Cunningham+in+Conversation&emb=1}
```

**Yahoo Video**

You will need to find the URL for the Yahoo video that you want to display.

**To find a Yahoo video’s URL:**

1. Go to [Yahoo Video](http://www.yahoo.com) and search for the video you want.
2. Click the title of the video, such as 'Wiki Technology Trend: Past, Now and Future'.
3. The video’s summary page will open. Copy the URL from the address bar of your browser. The URL looks something like this:

   ![Yahoo Video URL Example](http://video.yahoo.com/watch/423158/2424140)

4. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a Yahoo video:

```html
{widget:url=http://video.yahoo.com/watch/423158/2424140}
```

**Dailymotion Video**

You will need to find the URL for the Dailymotion video that you want to display.

**To find a Dailymotion video’s URL:**

1. Go to [Dailymotion Video](http://www.dailymotion.com) and search for the video you want.
2. Click the title of the video, and it will take you to the video’s summary page.
3. Copy the URL from the address bar. The URL looks something like this:

   ![Dailymotion Video URL Example](http://vids.myspace.com/index.cfm?fuseaction=vids.individual&videoid=3376248&searchid=20c789f6-1ae9-459a-bfec-75efcfc2847c)

4. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a Dailymotion video:

```html
{widget:url=http://vids.myspace.com/index.cfm?fuseaction=vids.individual&videoid=3376248&searchid=20c789f6-1ae9-459a-bfec-75efcfc2847c}
```
1. Go to Dailymotion and search for the video you want.
2. Click the title of the video, such as 'Wiki Technology Trend: Past, Now and Future'.
3. The video's summary page will open. Copy the URL from the address bar of your browser. The URL looks something like this:

   http://www.dailymotion.com/user/spacevidcast/video/x7zevj_spacevidcast-2009-promo-video_tech

   If you are unable to obtain a unique URL from your browser's address bar, click Menu at the lower right section of the video screen, select URL & Embed Code and copy the contents of the Link field.

4. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a Dailymotion video:

   {widget: http://www.dailymotion.com/user/spacevidcast/video/x7zevj_spacevidcast-2009-promo-video_tech}

Episodic
You will need an Episodic user account if you want to create and distribute videos via Episodic.

To embed an Episodic video onto a Confluence page:

1. Find the video and copy the URL from the address bar of your browser. The URL looks something like this:

   http://app.episodic.com/shows/13/episodes/493

2. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding an Episodic video:

   {widget:url=http://app.episodic.com/shows/13/episodes/493}

Vimeo
You will need to find the URL for the Vimeo video that you want to display.

To find a Vimeo video's URL:

1. Go to Vimeo and search for the video you want.
2. Click the title of the video, such as 'The Wiki Show - Allison the Russian High Kicker'.
3. The video's summary page will open. Copy the URL from the address bar of your browser. The URL looks something like this:

   http://www.vimeo.com/909808

4. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a Vimeo video:

   {widget:url=http://www.vimeo.com/909808}

Metacafe
You will need to find the URL for the Metacafe video that you want to display.

To find a Metacafe video's URL:

1. Go to Metacafe and search for the video you want.
2. Click the title of the video, such as 'Wikis In Plain English (How To)'.
3. The video's summary page will open. Copy the URL from the address bar of your browser. The URL looks something like this:

   http://www.metacafe.com/watch/679493/wikis_in_plain_english_how_to/

4. Paste the URL into the Widget macro code on your Confluence page.
Here is an example of the Widget macro code for embedding a Metacafe video:

```
{widget:url=http://www.metacafe.com/watch/679493/wikis_in_plain_english_how_to/}
```

**blip.tv**

You will need to find the URL for the blip.tv video that you want to display.

To find a blip.tv video's URL:

1. Go to [blip.tv](http://blip.tv) and search for the video you want.
2. Click the title of the video, such as 'River cruising on the Rhine'.
3. The video's summary page will open. Copy the URL from the address bar of your browser. The URL looks something like this one:

   ![URL Example](http://blip.tv/file/996864/)

4. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a blip.tv video:

```
{widget:url=http://blip.tv/file/996864/}
```

The Widget Connector packaged with Confluence 3.0 currently possesses issues rendering blip.tv videos on Confluence pages. This problem has already been recorded in CONF-15667.

**Viddler**

You will need to find the URL for the Viddler video that you want to display.

To find a Viddler video's URL:

1. Go to [Viddler](http://www.viddler.com) and search for the video you want.
2. Click the title of the video, such as 'Gliffy Diagramm in Conflu...'.
3. The video's summary page will open. Copy the URL from the address bar of your browser. The URL looks something like this one:

   ![URL Example](http://www.viddler.com/explore/Markus_Z/videos/1/)

4. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a Viddler video:

```
{widget:url=http://www.viddler.com/explore/Markus_Z/videos/1/}
```

**Flickr**

You can embed a slide show of photos from Flickr by supplying a URL that specifies one of the following:

- Photos with a specific tag.
- Photos belonging to the photostream of a specific Flickr user.
- A set of photos as defined by the Flickr user.
- A user's photostream starting at a specific photo.

If you want to do something else, we suggest that you try any Flickr URL. It should work.

Below are some examples of the Widget macro code for embedding Flickr images.

**Flickr Photos with a Specific Tag**

This example displays a slide show of Flickr photos that are tagged with the word 'Atlassian'.

```
{widget:url=http://www.flickr.com/photos/tags/atlassian/}
```

**Flickr Photos from a Specific User**
This example displays a slide show of photos from the Flickr photostream of user 'Atlassian'.

Flickr Photos from a Specific Set

This example displays a slide show of Flickr photos from the set 'Melbourne Cup - November 2008' created by user 'Atlassian'.

A Specific Flickr Photo

This example displays a slide show of photos from the Flickr photostream of the user 'Atlassian', starting with a specific photo.

Skitch.com

You will need to find the URL for the Skitch image that you want to display.

To embed a Skitch image onto a Confluence page:

2. Find the image and copy the URL from the address bar of your browser. The URL looks something like this:

   http://skitch.com/atlassian/411g/example-image

3. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a Skitch image:

Twitter

To display the latest messages from a Twitter user, add the user's Twitter link as a URL in the Widget macro.

The example below will display Mike Cannon-Brooke's Twitter messages:

FriendFeed

To display the latest messages from a FriendFeed user, add the user's FriendFeed link as a URL in the Widget macro. For example:

BackType

To display the latest blog or website comments from a BackType user, add the user's BackType widget link as a URL in the Widget macro. For example:

SlideShare
You will need to find the URL for the SlideShare presentation that you want to display.

To find a SlideShare presentation's URL:
1. Go to SlideShare and search for the presentation you want.
2. Click the title of the presentation, such as 'Using JIRA & Greenhopper for Agile Development'.
3. The presentation's summary page will open. Copy the URL from the address bar of your browser. The URL looks something like this one:

   http://www.slideshare.net/jleyser/using-jira-greenhopper-for-agile-development-presentation

4. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a SlideShare presentation:

   {widget:url=http://www.slideshare.net/jleyser/using-jira-greenhopper-for-agile-development-presentation}

SlideRocket

You will need to find the URL for the SlideRocket presentation that you want to display.

To find a SlideRocket presentation's URL:
1. Log in to SlideRocket and go to your library of presentations.
2. Copy the 'web link' for the presentation you want to display. This will give you a URL that looks something like this one:

   http://app.sliderocket.com/app/FullPlayer.aspx?id=132f9db7-b0fb-4f51-b974-36652774971b

3. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a SlideRocket presentation:

   {widget:url=http://app.sliderocket.com/app/FullPlayer.aspx?id=132f9db7-b0fb-4f51-b974-36652774971b}

Scribd

You will need to find the URL for the Scribd presentation that you want to display.

To find a Scribd presentation's URL:
1. Go to Scribd and search for the presentation you want.
2. Click the title of the presentation, such as 'My Sea Friends Coloring Book'.
3. The presentation's summary page will open. Copy the URL from the address bar of your browser. The URL looks something like this one:


4. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a Scribd presentation and displaying it with a height of 600 pixels:


Google Docs Presentations

You can embed presentations from Google Docs, but not other document types. You will need to find the URL for the Google Docs presentation that you want to display.

To find the URL of a Google Docs presentation:
1. Publish your presentation in Google Docs.
2. View your published document, then copy the URL from your browser's address bar. The URL will look something like this:
3. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a Google Docs presentation:

```
{widget:url=http://docs.google.com/Presentation?docid-ddpqn8g5_0fx96zmmq&amp:mm=en_GB}
```

**Google Calendar**

You can embed a Google Calendar into your page and to do this, you will need to add the URL for the Google Calendar that you want to display.

To find the URL for a Google Calendar:

1. Log in to Google Calendar.
2. In the calendar list on the left side of the page, ensure the appropriate calendar is selected, click the down-arrow button next to the calendar name and then select the **Calendar settings** option. (Alternatively, if available, click the **Manage Calendars** link at the bottom of the calendar list and then click the name of the appropriate calendar.)
3. In the **Calendar Address** section, click the **HTML** button. A pop-up message with your calendar’s public URL appears.
4. Copy the URL from this pop-up message. The URL looks something like this:

```
http://www.google.com/calendar/embed?src=somebody%40example.com&amp;ctz=Australia/Sydney
```

5. Paste the URL into the Widget macro code on your Confluence page.

Here is an example of the Widget macro code for embedding a Google Calendar:

```
{widget:url=http://www.google.com/calendar/embed?src=somebody%40example.com&amp ;ctz=Australia/Sydney}
```

**Wufoo HTML Form Builder**

To display an HTML form built in the Wufoo **HTML Form Builder**, add the form’s link as a URL to the Widget Macro. For example:

```
{widget:url=http://examples.wufoo.com/forms/contact-form/}
```

**Dabble DB online database builder**

To display a shared page built in Dabble DB, add the page’s link as a URL to the Widget Macro. For example:

```
{widget:url=https://confluence-sample.dabbledb.com/page/confluence-sample/nSQqdgIg}
```

The Widget Macro supports shared Dabble DB **view** and **form** pages. Hence, it is possible to insert a Dabble DB data entry form into a Confluence page. Any data submitted via this form can be displayed on the same or another page via a Dabble DB view.

**About the Web-Widget and Widget Macros**

Confluence supports **web-widget** as an alias for widget. Your **System Administrator** can enable or disable one or both these macro names. The alias is useful for Confluence sites which use Adaptavist’s **Community Bubbles** plugin, to avoid conflict with the ‘widget’ macro supplied by that plugin.

If the **web-widget** alias is enabled on your Confluence site, you can use **web-widget** instead of **widget** in all the examples above.

**Troubleshooting**

If the URL given in the Widget macro does not work, the Widget macro displays an icon and the base URL. The icon will be linked to the full URL given in the macro code.

For example, the following code:
This page contains a working example of all the services currently supported by the Widget Connector. This page lets you preview what each widget will look like and see how to interact with it.

**Flickr**

```
{widget:url=http://example.com/invalid}
```

```
{widget:url=http://www.flickr.com/photos/tags/atlassian}
```

```
{widget:url=http://www.flickr.com/photos/atlassian/}
```

```
{widget:url=http://www.flickr.com/photos/atlassian/sets/72157608657271078/}
```

```
{widget:url=http://www.flickr.com/photos/atlassian/3003538919/}
```

**iGoogle**

```
```

**Google Video**

```
{widget:url=http://video.google.com/videoplay?docid=-7739076742312910146&ei=nJAFsBrrzPIWOwgOwvGKDA&q=An+Evening+With+Wiki+Inventor+Ward+Cunningham+in+Conversation&emb=1}
```

**Google Docs**

```
{widget:url={widget:url=http://docs.google.com/Presentation?id=ddpqn8g5_0fx96zf7q}}
```

**YouTube**

```
{widget:url=http://example.com/invalid}
```
MySpace

Episodic

Vimeo

MetaCafe

BlipTV

Viddler

Skitch
Error Message

default.png

{widget:url=http://example.com/invalid}

Related Content

- Working with Macros

Working with the Macro Browser

The **Macro Browser** allows you to browse through Confluence's extensive range of packaged macros and preview them using a combination of selected parameters before adding them to your page.

The Macro Browser provides access to **all available macros** in a Confluence installation, with the exception of **User Macros**. If additional Confluence macros have been installed on your Confluence server (for example, via the installation of a non-bundled plugin), these will also be accessible from the Macro Browser.

On this page:

- Accessing the Macro Browser
- Browsing for a Macro
  - Restricting the Macro List by Category
  - Restricting the Macro List by Word Search
- Choosing a Macro, Modifying and Inserting it onto a Page or Blog Post
- Editing an Existing Macro with the Macro Browser

Accessing the Macro Browser

You can access the Macro Browser whenever you add or edit a page, blog post or comment.

To access the Macro Browser,

1. Log in to Confluence, if you have not already done so.
2. Add or edit a page or blog post.
3. On either the **Rich Text** or **Wiki Markup** editor views, place the cursor at the macro insertion point and click the Macro Browser icon .
   Alternatively, if you are working in the Rich Text editor and have the **Context Menu** activated, place the cursor at the macro insertion point, right-click and select `Insert/Edit Macro` from the Context Menu.

   The Macro Browser window opens.
Each macro is presented on the right-hand side of the Macro Browser by its icon, its name and a brief description of its function.

**Browsing for a Macro**

Since the Macro Browser contains 80+ individual bundled macros, it is designed to facilitate the selection of the specific macro you require, by providing two quick methods for narrowing down the entire list of macros. When the Macro Browser is first opened, it is in 'macro selection' mode.

**Restricting the Macro List by Category**

Each macro is assigned to one of these categories. Clicking on one of these category names reduces the list of macros to those macros associated with the chosen category only.

**Screenshot: Macro Browser List Restricted by Category**

A very small proportion of macros are assigned to two (or rarely three) categories because their scope of functionality matches these categories. Hence, you may notice that some of these macros are appearing in two, possibly three categories.

**Restricting the Macro List by Word Search**

The search field at the top of the Macro Browser allows you to reduce the list of macros based on words (or parts of words) contained within the macro's name or its description. As you start typing a word, the macro list restricts to only those macros whose name or description matches the characters you have entered.
Choosing a Macro, Modifying and Inserting it onto a Page or Blog Post

To choose a macro, modify and insert it onto a page or blog post,

1. Access the Macro Browser and browse to the required macro, if you have not already done so.
2. Click on the required macro to choose it. The Macro Browser window changes to the macro preview mode with its preview pane on the left and parameter pane on the right.
3. If necessary, modify the macro's parameters in the parameter pane to your requirements.
   - Any parameters marked by an asterisk (*) are mandatory and must be set before you can preview or insert the macro.
4. To preview the macro with your selected parameters, click 'Refresh'. The preview pane shows the current content of your macro based on the parameters selected in the parameter pane.
   - Macros can only be previewed if their mandatory fields have first been set.
5. Click the 'Insert' button to insert the macro and its parameter selection into the page or blog post.
   - If you wish to choose a different macro, click the 'Back' button. The Macro Browser reverts back to its macro selection mode, based on your prior restriction by category or word search criteria.

Not all macros can be previewed in the Macro Browser. This is often the case with macros that require the page to be saved first to render correctly, such as the Table of Contents Macro, or macros that do not generate output, such as the Anchor Macro. Nevertheless, you can still use the Macro Browser to browse for these macros and set their specific parameters before inserting them into your page.

Editing an Existing Macro with the Macro Browser

It is possible to edit an existing macro using the Macro Browser, thereby allowing you to modify its existing parameters and preview the changes.

To edit an existing macro with the Macro Browser,

If multiple words (including partial words) are used, then only macros whose name or description matches all these items in the Word Search field are listed.
1. Edit the existing page or blog post containing the macro you wish to edit via the Rich Text or Wiki Markup editors.

2. Place the cursor anywhere within the curly braces of the macro and click the Macro Browser icon. Alternatively, if you are working in the Rich Text editor and have the Context Menu activated, place the cursor anywhere within the curly braces of the macro, right-click and select 'Insert/Edit Macro' from the Context Menu.

3. If the macro you wish to edit consists of two sets of curly braces surrounding some body text (for example, \{example-macro\}some body text\{example-macro\}), ensure that your cursor is placed within the macro’s first set of curly braces. This is because many macros permit the insertion of other macros within their bodies. If you are using the Rich Text Editor, you can also edit the macro by placing your cursor in its second set of curly braces. The Macro Browser window opens in macro preview mode with its existing parameter values.

4. Modify the macro’s parameters to your requirements, previewing them if necessary. For more information on these processes, refer to the procedure above.

5. Click the ‘Save’ button on the Macro Browser to save your changes.

To leave the Macro Browser at any time, click its ‘Cancel’ button or simply press the ESC key.

Screenshot: Editing an Existing Macro with the Macro Browser in Macro Preview Mode

RELATED TOPICS

Working with Macros

Tracking Updates Overview

Here’s how you can keep track of changes to a single page, an entire space, or to all spaces on your site.

You can only track updates to content visible to you.

Watch a space: be notified by email of new or modified content within a space. The notifications contain:

- Pages created and updated
- Blog posts created and updated
- User profiles updated

Watch a page: be notified by email of updates to a page.

Subscribe to Daily Email Reports: be notified daily of changes in all spaces to which you have ‘view’ access.

RSS Feeds: subscribe to Confluence RSS feeds to stay informed of
Managing Watches

The 'Watches' page displays a list of all pages and spaces you are currently watching. You will be sent email notifications when changes are made to your watched pages and spaces.

To manage your notifications for your 'Watches',

1. Go to the 'Profile' view for your user profile. To do this:
   - Log in to Confluence, if you have not already done so.
   - Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
   - Select 'Profile' from the dropdown list. The 'Profile' view will open.
2. Go to the 'Watches' tab. This lists the pages and spaces you are currently watching. Click the envelope icon beside any unwanted watches to remove them.
3. Click the 'email settings' link to go to the 'Email' section of the 'Settings' tab.
4. Click the 'Edit' button to enter edit mode.
5. Select the 'Notify on my actions' check box if you want Confluence to include your own actions in your notifications for your watches. Clear this if you do not want to be notified of your own actions.
   - Note that this option only applies to your watches and not to the Daily Report.
6. Use the 'Email Format' drop-down menu to choose whether you want to receive your notifications as HTML or plain text. Note that this will apply to the Daily Report as well as to your notifications for watches.
7. Click the 'Save' button to save your changes.

RELATED PLUGINS

Consider adding a plugin to extend Confluence's functionality.

- Confluence Contributors Plugin — allows you to list the users, watchers, labels and etc in a page.
- Autowatch Plugin — allows you to automatically turn on the page watch if a comment is added.
1. Go to the 'Profile' view for your user profile. To do this:
   - Log in to Confluence, if you have not already done so.
   - Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
   - Select 'Profile' from the dropdown list. The 'Profile' view will open.
2. Click the 'Settings' tab.
3. In the left-hand panel, click the 'Email' link.
4. Click the 'Edit' button.
5. From the 'Email Format' drop-down menu, select whether you want to receive your notifications as HTML or plain text. This will apply to all your email notifications, including your watches.
6. Select the check box beside 'Subscribe to daily updates'.
7. If you want to receive a notification each time you add or edit content on Confluence yourself, select the check box beside 'Notify on my actions'. If you leave this check box cleared, you will receive notification of other people's actions but not of your own.
8. If you want to see content changes made in Edit notification email messages, select the check box beside 'Show changed content'. If you leave this check box cleared, content changes will be omitted from your emails.
9. If you want to see full page or blog post content in Edit notification emails, select the check box beside 'Show full content'. If you leave this check box cleared, full page or blog post content in Edit notification emails will be omitted from your emails.
10. Click the 'Submit' button.

**Screenshot: Subscribing to daily updates**

**RELATED TOPICS**

Tracking Updates Overview
User Profile Overview

Take me back to the Confluence User Guide.

**Subscribing to RSS Feeds within Confluence**

RSS feeds allow you to track updates to content within Confluence. You will need an RSS newsreader to subscribe to them.

On this page:
- Confluence RSS Feeds
- RSS Newsreaders
• Removing an RSS Feed

Confluence RSS Feeds

You can create a customised RSS feed using the RSS Feed Builder (recommended) or subscribe to one of the pre-specified feeds generated by Confluence.

What would you like to do?

• Create and subscribe to customised RSS feeds using the RSS Feed Builder — create a customised RSS feed (e.g. filter your feed using a label; specify the number of items and days to include in your feed; etc.)

• Subscribe to pre-specified RSS feeds — generate an RSS feed automatically in a minimal number of steps.

• Subscribe to a feed of bookmarks created via the Social Bookmarking plugin.

• Subscribe to a feed of any Confluence user's network to track the activities of users they are following in their network.

To have your newsreader log into Confluence, you can add your username and password to the feed URL. But please note that if you do this, someone with access to your RSS newsreader configuration can read your password.

RSS Newsreaders

The following are some popular RSS newsreader programs for various operating systems. You can find a more comprehensive list on Google's open directory.

Windows

• SharpReader
• NewsGator
• Syndirella
• FeedDemon
• NewzCrawler

Mac OS X

• Safari
• NetNewsWire
• NewsFire
• Shrook

Multi-Platform

• NewsMonster (Runs in the Mozilla web browser)
• Radio Userland (Windows and MacOS)
• AmphetaDesk (Windows, Unix, Mac OS X)

Removing an RSS Feed

There is no need to try to delete or remove an RSS feed built by the Confluence RSS feed builder.

Explanation: The feeds generated by the RSS Feed Builder are dynamically generated via the parameters included in the feed URL (address). For example, take a look at the following feed URL:

http://confluence.atlassian.com/createrssfeed.action?types=page&sort=modified&showContent=true...

The above feed URL will generate a list of pages ("types=page"), sorted by the modification date and showing the page content. The feed is generated at the time when the URL is fetched and there is no RSS feed information stored on the database. For that reason, there is no need to remove anything.

RELATED TOPICS

Tracking Updates Overview
Working with RSS Feeds
RSS Feed Macro
Adding a username and password to Confluence RSS feeds

Take me back to the Confluence User Guide.
Using pre-specified RSS feeds

If you want to customise your Confluence RSS feed (e.g. use a label to filter your feed), use the RSS Feed builder instead.

To subscribe to RSS feeds generated by Confluence, for a particular space

1. Go to 'Browse' and select 'Advanced' from the dropdown list. The 'Advanced' screen will appear.
2. Click on 'RSS Feeds' in the left-hand column.
3. Copy and paste the link for one of the following feeds into your RSS newsreader:
   - Pages
   - News
   - Mail
   - Comments
   - Attachments
   - All content
4. To have your newsreader log into Confluence, you can add your username and password to the feed URL.
   Please note that if you do this, someone with access to your RSS newsreader configuration can read your password.

To subscribe to RSS feeds generated by Confluence, for a particular page (where available)

1. Locate the following icon, which is available in the top-right corner of certain pages: 📢
2. Copy and paste the icon's link into your RSS newsreader.
3. To have your newsreader log into Confluence, you can add your username and password to the feed URL.
   Please note that if you do this, someone with access to your RSS newsreader configuration can read your password.

RELATED TOPICS

Adding a username and password to Confluence RSS feeds
Using the RSS Feed Builder
Tracking Updates Overview
Working with RSS Feeds
RSS Feed Macro

Take me back to the Confluence User Guide.

Using the RSS Feed Builder

Using the RSS feed builder, you can create customised RSS feeds to subscribe to changes within Confluence.

More information about RSS Feeds.

Building an RSS Feed

To create a customised RSS feed,
1. Go to the dashboard and click on the RSS feed builder link located below the list of spaces. This will display a form as shown below.

2. **Type of Content**: Check the boxes to select one or more content types you want to subscribe to: Pages, News Items, Mail, Comments, and Attachments.

3. Choose whether to sort items in your RSS feed by the date they were originally **Created** or the date they were last **Modified**.

4. (Applies to pages only.) Choose whether your RSS feed should display the entire page **Content**, or just the updated content (Diff).

5. Select one or more spaces from the drop-down list. Press Ctrl + left mouse button to select multiple spaces.

6. If you want to filter your RSS feed using a **label**, enter the label name in the input-field.

7. Choose the **format** for your RSS feed (if different from the default).

8. Specify the number of items you want displayed and from how far in back in time you want Confluence to look.

9. Type a **name** for your RSS feed.

10. Click 'Create RSS Feed' when you are done. This will take you to a new screen. Drag or copy the link displayed into your RSS reader.

11. To have your newsreader log into Confluence, you can add your username and password to the feed URL. But please note that if you do this, someone with access to your RSS newsreader configuration can read your password.

*Screenshot 1: RSS feed builder*
**Step 1**
Select the content you would like in this feed:
- Pages
- Comments
- News Items
- Attachments
- Mails

Sorted by:
- Created Date
- Modified Date

For Pages, Show:
- Content
- Diff

**Step 2**
Select the feed format and access:
- RSS 1.0
- RSS 2.0
- Atom

Feed size:
- Limit feed to 10 items from the last 5 days

Please choose a name for this feed:

Confluence RSS Feed

Create RSS Feed

Press Ctrl + left mouse button to select multiple spaces.

Labelled with at least one of the labels:

**Screenshot 2: Example Feed**
Removing an RSS Feed

There is no need to try to delete or remove an RSS feed built by the Confluence RSS feed builder.

Explanation: The feeds generated by the RSS Feed Builder are dynamically generated via the parameters included in the feed URL (address). For example, take a look at the following feed URL:

http://confluence.atlassian.com/createrssfeed.action?types=page&sort=modified&showContent=true...

The above feed URL will generate a list of pages ('types=page'), sorted by the modification date and showing the page content. The feed is generated at the time when the URL is fetched and there is no RSS feed information stored on the database. For that reason, there is no need to remove anything.

RELATED TOPICS

Adding a username and password to Confluence RSS feeds
RSS Feeds FAQ
Tracking Updates Overview
Working with RSS Feeds

Take me back to Confluence User Guide

Watching a Page

When you watch a page, you are notified by email whenever the page is modified.

You will receive email notifications for:

- page edits (unless the "Minor change" checkbox is ticked before saving) or page deletion
- attachments (including new versions of an existing attachment or deletions of an existing attachment)
- comments (including new comments, edits of existing comments or deletions of existing comments).
Note: You will not receive notifications when page content changes simply due to the output of a macro.

For example: The output of the \{children\} macro will change if someone adds a child page. The page when displayed will show the new child page. But the page content itself has not been edited, so no notifications will be sent.

To watch a page, you require 'View' permission for the page.

To start watching a page,

1. Go to the page.
2. Click the Tools menu at the top of the page.
3. Select the 'Watch Page' icon \from the list. This will be replaced with the 'Stop Watching Page' icon \.

To stop watching a page,

1. Go to the page.
2. Click the Tools menu at the top of the page.
3. Select the 'Stop watching Page' icon \ from the list. This link will be replaced the 'Watch Page' icon \.

Here is an example of the email notification you will receive when a comment is added to a watched page:

Subject: [CONF] Confluence 2.0 User Guide: Watching a Page (comment added)
From: rcrealy@adapten.com
Date: 5:24 PM
To: vidya@adapten.com

Comment Added: CONF20: Re: Watching a Page

Watching a Page commented on by Vidya Madabushi (Nov 24, 2005).

Comment:
this is a test comment to illustrate how notifications are sent

Handy Hint
You can manage your watches via the 'Watches' tab under your user profile settings. See Managing Watches.

RELATED TOPICS
Watching a Space
Managing Watches
Tracking Updates Overview
Browsing a space
Updating Email Address

Take me back to Confluence User Guide

Watching a Space

When you watch a space, you are notified by email whenever content is added to it or updated.

To start watching a space,

1. Go to the 'Advanced' view for the space. To do this:
   * Go to a page in the space, open the 'Browse' menu and select 'Advanced'. The 'Advanced' view will open.
2. In the left-hand panel, click 'Start watching this space'. This link will be replaced with a new link to 'Stop watching this space'.

1530
To stop watching a space,

1. Go to the 'Advanced' view for the space. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Advanced'. The 'Advanced' view will open.
2. In the left-hand panel, click 'Stop watching this space'. This link will be replaced with a new link to 'Start watching this space'.

**Handy Hint**

You can also stop watching a space via the 'Watches' tab under your user profile settings. See Managing Watches.

**RELATED TOPICS**

- Watching a Page
- Managing Watches
- Tracking Updates Overview
- Browsing a space
- Updating Email Address

**Working with RSS Feeds**

An RSS feed is a format for delivering summaries of regularly changing web content. Subscribing to an RSS feed allows you to stay informed of the latest content from sites that you are interested in.

RSS isn't designed to be read in a regular web browser. Specialised RSS newsreader programs can check RSS files every so often, and tell you what's new on a site. Your reader may be on a website, an addon to your browser, part of your email program, or a stand-alone program.

Confluence works with RSS in two ways:

- Confluence generates its own RSS feeds for tracking updates to content within Confluence. You will need an RSS reader which can grab the RSS feeds from Confluence and display them for you.
- Confluence's RSS macro allows you to display the contents of RSS feeds on a Confluence page. The feeds may come from a Confluence feed generator or from external sites. In this way, Confluence can act as an RSS reader.

For a technical description of RSS, read Mark Pilgrim's "What is RSS?" article on XML.com.

**RELATED TOPICS**

- Subscribing to RSS Feeds within Confluence
- Displaying content from RSS feeds on a Confluence page
- Tracking Updates Overview

**Adding a username and password to Confluence RSS feeds**

You can create a feed from Confluence, so that you can keep track of updates to Confluence content. You will then use a feed reader to display the feed. Your feed reader may be an RSS newsreader (examples here), or you can display the feed on a Confluence page using the RSS Feed Macro.

**Adding your username and password to the feed URL**

After creating the feed, you can add your username and password to the feed URL. This will allow your feed reader to log in to Confluence. You will need to add your username and password for feed readers which use the RSS Feed Macro as well as for external RSS newsreaders.

The instructions below apply to feeds coming from Confluence. To log in to external blogs, you will need to know the specific parameters to include in the URL. The terms 'os_username' and 'os_password' are specific to Confluence.

- If you are using a newsreader, anyone with access to your RSS newsreader configuration can read your password.
- If you are embedding your feed on a Confluence page, you will include your username and password in the text of the page. Your password will be visible to anyone who can edit the page or view the source of the page.
To add a username and password to a Confluence RSS feed,

1. Get the feed URL by creating a feed from Confluence.
2. Add one of the two following strings of text to the end of the URL:
   a. ‘?os_username=myname&os_password=mypassword’ (i.e. the first character must be ‘?’ if your URL does not yet contain a parameter list starting with ‘?’)
   b. ‘&os_username=myname&os_password=mypassword’ (i.e. the first character must be ‘&’ if your URL already contains a parameter list starting with ‘?’)
      - Leave out the quotes.
      - Replace ‘myname’ with your username.
      - Replace ‘mypassword’ with your password.
      - If your username or password contain special characters, replace with URL encoding as shown below.
      - Leave the rest of the text exactly as it is.
3. Copy the URL into your newsreader or into the Confluence RSS Feed Macro.

Example:
Below is an example of a Confluence feed URL. In the example, the username is ‘Firstname Lastname’ and the password is ‘realpassword’. (Ignore the line-breaks in the example - we added them because the URL is too long to display comfortably on the page.)

```
{rss:url=http://confluence.atlassian.com/createrssfeed.action?types=page&types=comment&sort=modified&showContent=true&showDiff=true&spaces=DOC&labelString=&rssType=atom&maxResults=5&timeSpan=5&publicFeed=false&title=Example+Confluence+RSS+Feed+With+Authentication&os_authType=basic&os_username=Firstname+Lastname&os_password=realpassword,max=5|showTitlesOnly=true}
```

**URL encoding for special characters**

If you include special characters in a URL string, you must replace them with special codes, called URL encoding or percent encoding. Below are the codes for some of the most-used characters.

You can find more information here, and a URL translation function here.

<table>
<thead>
<tr>
<th>Character</th>
<th>URL encoding</th>
</tr>
</thead>
<tbody>
<tr>
<td>space</td>
<td>+</td>
</tr>
<tr>
<td>$</td>
<td>%24</td>
</tr>
<tr>
<td>&lt;</td>
<td>%3C</td>
</tr>
<tr>
<td>&gt;</td>
<td>%3E</td>
</tr>
</tbody>
</table>

**Examples:**

<table>
<thead>
<tr>
<th>Your password</th>
<th>String to include</th>
</tr>
</thead>
<tbody>
<tr>
<td>mypassword</td>
<td>&amp;os_password=mypassword</td>
</tr>
<tr>
<td>mypassword$</td>
<td>&amp;os_password=mypassword%24</td>
</tr>
<tr>
<td>mypassword$2</td>
<td>&amp;os_password=mypassword%242</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

Tracking Updates Overview
Working with RSS Feeds
RSS Feed Macro

Take me back to Confluence User Guide

**RSS Readers Compatibility**

Due to some users having problems with Confluence RSS Feeds, some research was done with several RSS Feed Readers. RSS Feeds have been created through the feed builder and tested on a Windows machine. For each feed reader they have been tested with both authentication and public access, checking for the visibility of content, icons and images. The results are in the tables below:

**Feeds with authentication**

<table>
<thead>
<tr>
<th>RSS Feed Reader</th>
<th>Content</th>
<th>Icons</th>
<th>Images</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RssReader 1.0.880</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>• Shows the entire page (including the header panel &amp; view, edit tabs)</td>
</tr>
<tr>
<td>Application</td>
<td>Status</td>
<td>Content Issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------</td>
<td>-------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JetBrains Omea Reader 2.1.6</td>
<td>✔️ ✔️ ✔️</td>
<td>Shows the changes between revisions in the nice red/green colours of Confluence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE 7.0</td>
<td>✔️ ✔️ ✔️</td>
<td>Content is all there however not all html is rendered correctly (for example .tag {font-style:italic;} is shown in the content as raw text) Shows the changes between revisions, but without the red/green colours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thunderbird 1.5.0.7</td>
<td>✔️ ✔️ ✔️</td>
<td>Shows the entire page</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bloglines</td>
<td>✔️ ✔️ ✔️</td>
<td>Simple online feed reader</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shows the changes between revisions, but with arrows</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Google Reader</td>
<td>✔️ ✔️ ✔️</td>
<td>Simple online feed reader</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yahoo</td>
<td>✔️ ✔️ ✔️</td>
<td>Shows the entire page</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Error message: Invalid URL format</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Feeds with public access**

<table>
<thead>
<tr>
<th>RSS Feed Reader</th>
<th>Content</th>
<th>Icons</th>
<th>Images</th>
</tr>
</thead>
<tbody>
<tr>
<td>RssReader 1.0.880</td>
<td>✔️ ✔️ ✔️</td>
<td>✔️ ✔️ ✔️</td>
<td></td>
</tr>
<tr>
<td>JetBrains Omea Reader 2.1.6</td>
<td>✔️ ✔️ ✔️</td>
<td>✔️ ✔️ ✔️</td>
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<tr>
<td>IE 7.0</td>
<td>✔️ ✔️ ✔️</td>
<td>✔️ ✔️ ✔️</td>
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<tr>
<td>Thunderbird 1.5.0.7</td>
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<tr>
<td>Bloglines</td>
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<td>✔️ ✔️ ✔️</td>
<td></td>
</tr>
</tbody>
</table>

**Searching Confluence**

The search box at the top right of your Confluence screen allows you to search Confluence wherever you happen to be in the site. It offers you a quick navigation aid as well as a full site search. You can also search Confluence directly from your browser's search box.

**Screenshot: The search box at the top right of a Confluence screen**

**On this page:**
- Searching Confluence from your Browser's Search Box
- Using the Quick Navigation Aid
- Performing a Full Search
- Viewing Attached Office Documents
- Accepting 'Did you mean' Suggestions from Confluence
- Filtering your Search Results
- Advanced Search Syntax
- Browsing Related Labels
- Searching the Content of Attachments

**Searching Confluence from your Browser's Search Box**

If you are using Firefox or Internet Explorer 7 or later, you can add your Confluence site as a search provider, via the dropdown menu next to the browser's search box.

**Screenshot: Adding your Confluence site to your browser's search box**
OpenSearch
Confluence supports the autodiscovery part of the OpenSearch standard, by supplying an OpenSearch description document. This is an XML file that describes the web interface provided by Confluence's search function. Any client applications that support OpenSearch will be able to add Confluence to their list of search engines. Your Confluence Administrator can enable or disable the Open Search feature via the Confluence Administration Console.

Using the Quick Navigation Aid
The quick navigation aid automatically offers a dropdown list of pages and other items, matched by title to your search query. You can select one of the offered items or ignore them altogether.

To use the quick navigation aid,

1. Start typing your query into the search box located at the top right-hand corner of every screen. Confluence matches titles as you type, showing a quickly-adjusting dropdown list of pages, news items, personal profiles, attachments and so on.
2. Press the Enter key if you want to bypass the quick navigation aid and perform a full search, as described below.
3. To see the space to which an item belongs, let your mouse pointer hover over the item in the dropdown list.
4. Use the up- and down-arrows on your keyboard to move up and down the list of matching titles and select an item.
5. Press the Enter key to open the selected item.
6. If you do not find what you are looking for, select the 'Search for' option at the bottom of the list and press the Enter key to do a full search. This has the same effect as pressing Enter immediately after typing your search query. The full search is described below.

Screenshot: The quick navigation aid showing titles matching the query 'con'
Here is more information about how the quick navigation feature works:

- Confluence will truncate any titles that are too long to be displayed.
- If a title is too long to fit the box, hover your cursor over the title to see the full text.
- The matching items are grouped by content type so that you can quickly find the type you want. Confluence shows a maximum of 6 pages and/or news items, 2 attachments, 3 people and 2 spaces. If no matches are found in a particular category, then that category does not appear in the list.
- Items are ordered with the most recent updates first.
- When the matching item is a person's name, their profile picture appears next to their name in the list.
- The part of the title that is matched by the search query is highlighted in bold text.

Your Confluence Administrator can enable or disable the quick navigation feature via the Confluence Administration Console.

### Performing a Full Search

When you perform a full search, Confluence will search all content in all spaces (global and personal), mail, personal profiles, attachments and the space description. The results will appear on a new screen.

**To use the full search,**

1. Type your query into the search box located at the top right-hand corner of every screen (or type it into the text box at the top of the Search screen).
2. Press the Enter key. (This means that you will ignore the dropdown list of titles offered by Confluence's quick navigation aid, described above.)
3. The Search screen appears, as shown below. If any Confluence pages or items match your search query, the Search screen shows a list of the matching items.
4. Click an item's title to open the Confluence page or other item.
On the left of the screen you will see a text block for each item that matched the search criteria, with the following information for each item:

- An icon representing the content type (user profile, space, page, news item, etc). See Confluence Icons.
- The title or name of the content item.
- For attachments: The size and type of file, with a link to download or view the attachment where relevant. See information on viewing Office attachments below.
- The most relevant few lines of content from within the item. Any words that match your search query are highlighted within the content.
- For personal profile items: The email address.
- The space to which the item belongs, displayed on the last line of the item's text block.
- The date when the content item was last modified.

⚠️ You will see only search results which you have permission to view.

On the right of the screen are further options which allow you to tailor or filter your search results. See below.

### Viewing Attached Office Documents

When the search results include an attached Office document, you will see a 'View' link as shown in the screen snippet below.

*Screenshot: Search results include an attached Office document with 'View' link*
Click the 'View' link to view the content of the Office document within Confluence. If you have an Office application installed, you will also be able to launch your Office editor from within Confluence. See Displaying an Office Document in Confluence and Working with the Office Connector.

**Accepting 'Did you mean' Suggestions from Confluence**

When you perform a full Confluence search, as described above, Confluence may offer you an alternative spelling of your search query. The alternative spelling will appear next to the words 'Did you mean', as shown in the example below.

**To accept an alternative spelling suggestion,**

1. Type your query into the search box.
2. Press the Enter key.
3. Confluence will analyse the wiki content, to determine whether an alternative spelling of your search query occurs more often in the wiki content. If this is the case, the words 'Did you mean' will appear on the screen, along with an alternative spelling for your search query.
4. If you want to try the alternative spelling, click the word showing the suggested spelling. In the example below, you would click the word 'confluence'.

**Screenshot : The Search screen with 'Did you mean' offering a corrected spelling**

Here is more information about how the 'Did you mean' feature works:

- Confluence uses both a dictionary (bundled with Confluence) and words mined from the content on your system to work out the best alternative spellings of your search terms. Practically, this means that Confluence can provide spelling corrections for specialised jargon that may not appear in a standard dictionary. In general, when deciding between alternative spellings, Confluence will favour words that appear more often in your content.
- In some cases, the 'Did you mean' suggestion may appear even when there are Confluence pages, etc, which match your search query. In other cases, there will be no items which match your search criteria. In both cases, Confluence will offer a 'Did you mean' suggestion if there is a word which will help you find more relevant content.
- The 'Did you mean' feature may offer more than one suggestion.
- The 'Did you mean' suggestion may even offer an incorrect spelling. This would happen if the incorrect spelling occurs many times within your Confluence site. This is intentional, because the aim of the 'Did you mean' feature is to help you find content, not to correct your spelling.

Your Confluence Administrator can enable or disable the 'Did you mean' feature via the Confluence Administration Console.

**Filtering your Search Results**

The Search screen, pictured above, appears when you do your first search. By default, Confluence will search all content across your Confluence site, including all spaces, mail archives, attachments and all other content types.

On the right of the screen are options which allow you to tailor or filter the search results.

**Screenshot : Filtering your search results**
Enter your filter criteria as described below, then click the 'Filter' button.

- **Where** — Restrict your search results to a particular space, or to your favourite spaces, global spaces or personal spaces.
- **What** — Restrict your search results to a particular content type (pages, news items, mail, etc).
- **When** — Restrict your search results to content modified within a particular period of time (today, yesterday, within the last week or within the last month).
- **Who** — Restrict your search results to content last modified by a particular user. You can start typing the person's username or part of their name into the text box as follows:
  - Type the username (e.g. 'jsmith').
  - Or start typing the person's first name (e.g. 'john')
  - Or their last name (e.g. 'smith').
  - Or another part of their name, such as a middle name.
  Confluence will offer you a list of possible matches. Use your mouse to select the person you want, then press the Enter key to filter the search results.

**Screenshot : Filtering your search results by user**

More information about the user-matching filter:
- The user-matching filter is not case sensitive. You can enter upper or lower case letters and will receive the same results.
- When looking for users to match the name you entered, Confluence divides a person's name into logical units corresponding to first name, middle name (one or more) and last name. It matches the letters of each unit in the name you entered against the letters of each unit in the user directory. For example, you can enter 'jo sm' to look for John Smith. The search is triggered after you have entered at least two letters.
- For each part of the name, you need to enter at least two letters. For example, if you enter just 'john s', the filter will look for users called 'john' and will ignore the 's'. Similarly, if you enter 'j smith' you will see everyone with the name 'smith' even if their first name does not start with a 'j'.
- You are not forced to use the auto-complete list. You can just type 'jsmith' or 'jo sm' and filter on that without choosing a match from the dropdown list. Confluence will warn you if there is more than one user corresponding to the name you have entered.

Click 'Clear Filter' if you want to remove all your filters and perform the same search again but without the filter.

**Advanced Search Syntax**

See Confluence Search Syntax for more ways to refine the text you enter into the search box.

Additionally, see Confluence Search Fields for special parameters you can use in the search box to search on various metadata.

**Browsing Related Labels**
Also on the right of the Search screen, Confluence will offer a list of labels which are related to your search query. See the screenshot above.

You can click a label to see all pages and news items tagged with that label. See Navigating Pages by Label.

**Searching the Content of Attachments**

When you search Confluence, by default the search will include the content of the following types of attachments:

- Word
- Text
- PowerPoint
- Excel
- PDF
- HTML

To search the content of other attachment types, you will need to use an attachment content extractor plugin. For more information, take a look at the following:

- Existing extractor plugins which you can install on your Confluence site.
- Guidelines on developing your own attachment content extractor plugin.

**Related Topics**

Confluence Search Syntax
Confluence Search Fields
Ranking of Search Results
Text Tokenisation and Filtering
Search Macro
Livesearch Macro
Pagetree Macro (includes an optional search box)
Viewing labelled pages
Searching the People Directory

Take me back to Confluence Documentation Home

**Confluence Search Fields**

This page is intended for developers and advanced users of Confluence. It gives an overview of the Apache Lucene search fields used in Confluence.

On this page:

- Searching for Content in Specific Fields
- Confluence Search Fields
  - Personal Information
  - Pages
  - News
  - Attachments
  - Mail Items

**Searching for Content in Specific Fields**

Confluence data is stored in fields which can be specified in the search. To search a specific field, type the name of the field followed by a colon `:` and then the term you are looking for.

Examples:

```
title:"Some Title"
```

```
labelText:chalk
```

The field specification applies only to the term directly preceding the colon. For example, the query below will look for "Some" in the title field and will search for "Heading" in the default fields.

```
title:Some Heading
```

**Confluence Search Fields**
Below are the fields which can be searched, listed by content type.

### Personal Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Indexed</th>
<th>Stored</th>
<th>Tokenised</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>handle</td>
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</tr>
<tr>
<td>type</td>
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</tr>
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### Pages

<table>
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<tr>
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</tr>
<tr>
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<td>lastModifiers</td>
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<td>Username of the user who last updated the page.</td>
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<tr>
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<td>true</td>
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<td>false</td>
<td>Username of the user who added the page.</td>
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### Attachments

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### Mail Items

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<td>true</td>
<td>true</td>
<td></td>
</tr>
<tr>
<td>lastModifiers</td>
<td>true</td>
<td>true</td>
<td>false</td>
<td>The username of the user who did the mail import, not the person who sent the email message.</td>
</tr>
<tr>
<td>creatorName</td>
<td>true</td>
<td>true</td>
<td>false</td>
<td>The username of the user who did the mail import, not the person who sent the email message.</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- Searching Confluence
- Confluence Search Fields
- Confluence Search Syntax
- Ranking of Search Results
- Searching the People Directory
- Text Tokenisation and Filtering
Confluence Search Syntax

Here’s how you can refine your search. Confluence will ignore common words like “the” unless you place your query within quotes.

**Exact phrase search**

To search for content that contains the exact phrase “chalk and cheese”

```
"chalk and cheese"
```

Confluence will ignore common words (stop words) like "and" above. This is the default list of stop words used by Lucene. Please cast your vote towards this improvement request.

For e.g:

1. Searching for “The One” returns all pages containing “One” because “The” is a stop word.
2. Searching for “Cheese One” would only return pages in which “One” appears as the first word (other than stop words) after “Cheese”. So it would return “Cheese for One” or “Cheese to One” or “Cheese One”. It would not match “One Cheese” or “Cheese Flamingo One”.

**Or Search**

To search for content that contains one of the terms, “chalk” OR “cheese”

```
chalk OR cheese
```

**And Search**

To search for content that contains both the terms “chalk” AND “cheese”

```
chalk AND cheese
```

**Not search**

To search for content that contains “chalk” but NOT “cheese”

```
chalk NOT cheese
```

**Excluded Term search**

Similar to the NOT search, to search for content that contains “chalk” and “butter” but NOT “cheese”

```
chalk butter -cheese
```

**Grouping Search**

To search for content that MUST contain “chalk” but CAN contain either “cheese” or “butter” use the search:

```
(cheese OR butter) AND chalk
```

**Title Search**

To search for content with “chalk” in its title, where title is the field keyword.

```
title:chalk
```

**Wild card searches**

**Single character**

To search for “butter” or “batter” you can use the search:

```
b?tter
```

To search for “chicken” or “chickpea” you can use the search:
Wildcards can be used anywhere within a word, except at the very beginning.
For example:

```
*chick
```

is an invalid search term.

**Multiple characters**
To search for "chick" or "chickpea".

```
c*c*
```

You can also combine search characters to get the exact word. For example the search term below will return "chick" yet not "chickpea":

```
c*c?
```

**Case Sensitivity in wildcard searches**
Since the fix for CONF-13846 Confluence is case sensitive for wildcard searches.

You should note that all the example searches given previously search across the default set of fields which are stored as lower case and therefore all searches of that style should be given lower case search terms (as shown in the examples).

However, if you were to search one of the case sensitive fields, such as "content-name-untokenized" the case of your search term would need to match the document you are searching for.

**Proximity searches**
This search ensure that the two words specified must be within a certain number of words of each other to be included.

```
"octagon post"~1
```

will return "Octagon blog post".

```
"octagon post"~0
```

is an invalid search term.

**Range search**
Searches for names that fall alphabetically within the specified range.

```
[adam to ben]
```

Note: You can't use the **AND** keyword inside this statement.

**Fuzzy search**
This search looks for words spelled similarly.
To search for octagon, if unsure about spelling:

```
oclogan~
```
will correctly return "octagon"

**Combined search**

You can also combine various search terms together:

```
?tag* AND past- AND ('blog' AND 'post')
```

**RELATED TOPICS**

Searching Confluence  
Confluence Search Fields

Take me back to Confluence User Guide

**Ranking of Search Results**

When you perform a search in Confluence, it is likely that there will be many pages or other content items that match your search terms. Confluence will rank the matching items by evaluating their relevance. This should mean that the items most relevant to you will appear at the top of the search results list, so that you can quickly select the item you need.

Below is an overview of the method Confluence uses to determine the relevance of the items returned by the search, i.e. to rank the search results.

**On this page:**
- Philosophy behind the Ranking
- Summary of the Ranking Method
- Weighting of Content Types
- Weighting of Fields
- Weighting Based on Age
- Simplified Example

**Philosophy behind the Ranking**

Confluence gives highest priority to personal information i.e. documents which take you to a user's profile when you click on them. Collaboration is a primary function of a wiki, so Confluence makes it easy to find people.

For example, if you search for 'John Smith', the first results you see will be for John Smith's user profile and personal space. There may also be other content (wiki pages, email messages, etc) which contain the words 'John Smith'. These other content types may even have 'John Smith' as the page title and repeated multiple times in the content, but they will still appear lower down in the list of search results.

Matching terms found in the title of a page, or in the title of any content type, are considered a strong match. So are matches found in labels, because when someone applies a label it means that they think the content is particularly relevant to the labelled term.

Matches found in the content body are of average importance. If the matched term appears more than once, the document will be given a proportionately higher ranking.

We also assume that information created recently is slightly more relevant than older information.

**Summary of the Ranking Method**

When displaying the results of a search, Confluence applies a weighting to each of the content items returned.

To determine the weighting:

1. For each content item, Confluence first applies three weightings based on the following:
   a. The content type of the item returned — user profile, page, news item, attachment, etc. (More details below.)
   b. The type of field in which the search term was found — title, name, label, or content body. (More details below.)
   c. The age of the item returned. (More details below.)

2. Confluence then combines the three weightings to arrive at a single weighting for the content item.

The item with the heaviest weighting will appear at the top of the list of search results, and the other items will appear below in descending order of weighting.

**Weighting of Content Types**

<table>
<thead>
<tr>
<th>Content Type</th>
<th>Weighting</th>
</tr>
</thead>
</table>
Simple example

If the search returns 7 matching items, and each item is one of the above types, then the items will be presented in the above order on the results screen. (This example assumes that the search term is found in the same field in each item — see more about fields below.)

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>9</td>
</tr>
<tr>
<td>Full name</td>
<td>8</td>
</tr>
<tr>
<td>Label text</td>
<td>7</td>
</tr>
<tr>
<td>Content</td>
<td>5</td>
</tr>
</tbody>
</table>

Note that 'content' above could be the content of a page, or the content of a comment, or the body of any other content type. See more about content types above.

Simple example

A match for a search term in the title of a document is 1.8 times (9/5) more important than a match in the content.

Weighting Based on Age

This weighting is based on the age of the item returned in the search results. The age of the item is calculated from the creation date of the item. The age intervals are quite coarse-grained, as shown in the table below.

<table>
<thead>
<tr>
<th>When the Item was Created</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>1.5</td>
</tr>
<tr>
<td>Yesterday</td>
<td>1.3</td>
</tr>
<tr>
<td>Up to 1 week ago</td>
<td>1.25</td>
</tr>
<tr>
<td>Up to 1 month ago</td>
<td>1.2</td>
</tr>
<tr>
<td>Up to 3 months ago</td>
<td>1.15</td>
</tr>
<tr>
<td>Up to 6 months ago</td>
<td>1.10</td>
</tr>
<tr>
<td>Up to 1 year ago</td>
<td>1.05</td>
</tr>
<tr>
<td>Beyond a year</td>
<td>1</td>
</tr>
</tbody>
</table>

The weighting is fairly small, so will not have a large effect. When an item is more than a year old, the age weighting is just ‘1’ i.e. it has no effect.
Simple example

- If two documents match in all other ways then the newer one will be presented first.
- If the two documents being compared are both older than a year then their relative age does not matter.

Simplified Example

Let's assume you search for a single term.

Confluence finds a match in the title of an email message created today:

| Weighting for the content type (email) | 0.5 |
| Weighting for field (title)           | 9   |
| Weighting for age (today)             | 1.5 |
| **Total weighting**                   | 6.75|

Confluence also finds a match in the content of a comment created three weeks ago:

| Weighting for the content type (comment) | 5   |
| Weighting for field (content)            | 5   |
| Weighting for age (up to 1 month ago)    | 1.2 |
| **Total weighting**                      | 30  |

**Result:** The comment (weighting 30) will be appear higher in the search results than the e-mail (6.75).

Confluence uses the Apache Lucene search engine library. Lucene's score calculation has a number of additional terms, not mentioned in the above example. We have simplified above, for purposes of illustration. If you are interested, you can see more information in the Lucene documentation.

**RELATED TOPICS**

- Searching Confluence
- Confluence Search Syntax
- Confluence Search Fields
- Text Tokenisation and Filtering
- Search Macro
- Livesearch Macro
- Pagetree Macro (includes an optional search box)

Take me back to Confluence Documentation Home

Searching the People Directory

The People Directory displays a list of people who use your Confluence site.

The People Directory includes anybody who has logged into Confluence or who has had a user account created for them in Confluence. The People Directory does not include users who can log into Confluence via external user management who have never logged in.

Viewing the People Directory

There are two ways by which you can access the people directory in Confluence:

- On the **Dashboard**, click the **People Directory** link next to the people directory icon.

- Alternatively, from most areas of Confluence, open the **Browse** menu and select **People Directory**

The Confluence administrator can hide the People Directory. If it is hidden, you will not see the 'People Directory' link either on the Dashboard or from the 'Browse' menu.
Searching for People

To search for a particular person, type their first name and/or last name into the search box and click the 'Search' button.

- To search everyone who uses your Confluence site, click the 'All People' link.
- To search just those people who have set up a personal space, click the 'People with Personal Spaces' link.
  - If a person has not yet set up their personal space, then the 'Personal Space' option will not be available from the 'More' menu of their hover profile popup. For more information about the hover profile feature, please refer to Hover Profile Overview.

Following People's Activities

Confluence's network features allow you to 'follow' (that is, keep track of) other people's activities throughout a Confluence site. For more information, please refer to Network Overview. Using the hover profile feature, the people directory is a convenient area from which you can start following other people throughout your Confluence site.

- To start following another person's activities, move your mouse over a user's name or profile picture and in their hover profile popup, click 'Follow'.
- To stop following another person's activities, move your mouse over a user's name or profile picture and in their hover profile popup, click 'Stop Following'.

Once you start following another person, their activities will start appearing in your network view.

People Directory provides hCard microformat

The People Directory uses the hCard microformat for simple integration with a variety of microformat-enabled tools. hCard is an open data format for representing people, companies, organisations, and places. Read more about microformats and hCard.

RELATED TOPICS

Setting up your Personal Space
Editing your User Profile
Uploading a Profile Picture

Take me back to the Confluence User Guide.

Text Tokenisation and Filtering

When searching for content based on search terms entered by the user, Confluence splits the text of the content into tokens, and then filters
and modifies those tokens according to the following rules.

**Tokenisation**

Confluence uses Lucene’s **Standard Tokenizer**. This splits the text into tokens as follows:

- Splits words at punctuation characters, removing punctuation. However, a dot that’s not followed by white space is considered part of a token.
- Splits words at hyphens, unless there’s a number in the token, in which case the whole token is interpreted as a product number and is not split.
- Recognises email addresses and internet host names as one token.

An example: The string ‘foo-bar5’ won’t be split into ‘foo’ and ‘bar5’, so a search for ‘bar5’ or ‘bar*’ will not find any results.

**Filtering**

Confluence then:

- Removes “s” from the ends of words.
- Removes the dots from acronyms, e.g. I.B.M. becomes IBM.
- Converts everything to lower case.
- Removes common words like ‘the’ and ‘or’ are removed.
- Converts words to their stems. For example, ‘fishing’ and ‘fishes’ both become ‘fish’.

**RELATED TOPICS**

Searching Confluence

**Working with Favourites Overview**

The **Favourites** feature provides a convenient way of gaining quick access to specific pages or spaces that might interest you. Pages and spaces that you have added to your list of favourites are easily accessible from your Dashboard and within your user profile area.

Adding a page or a space as a favourite provides you with faster access to the content you are interested in within the site.

1. **Favourite Spaces**

Once you add a space as a favourite, it will appear in the ‘**MY**’ tab in the spaces section of the dashboard. The ‘Recently updated’ section in this view will also display content only from your favourite spaces.

<table>
<thead>
<tr>
<th>Spaces:</th>
<th>My</th>
<th>Team</th>
<th>New (1)</th>
<th>All</th>
<th>My favourite spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confluence (DOC)</td>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
<td><img src="image5.png" alt="Image" /></td>
</tr>
<tr>
<td>Confluence 1.4 User Guide (CONF14)</td>
<td><img src="image6.png" alt="Image" /></td>
<td><img src="image7.png" alt="Image" /></td>
<td><img src="image8.png" alt="Image" /></td>
<td><img src="image9.png" alt="Image" /></td>
<td><img src="image10.png" alt="Image" /></td>
</tr>
<tr>
<td>Confluence 2.0 User Guide (CONF20)</td>
<td><img src="image11.png" alt="Image" /></td>
<td><img src="image12.png" alt="Image" /></td>
<td><img src="image13.png" alt="Image" /></td>
<td><img src="image14.png" alt="Image" /></td>
<td><img src="image15.png" alt="Image" /></td>
</tr>
<tr>
<td>Documentation Staging (DOCPRI4)</td>
<td><img src="image16.png" alt="Image" /></td>
<td><img src="image17.png" alt="Image" /></td>
<td><img src="image18.png" alt="Image" /></td>
<td><img src="image19.png" alt="Image" /></td>
<td><img src="image20.png" alt="Image" /></td>
</tr>
<tr>
<td>Documentation Staging 2 (DOCPRI2)</td>
<td><img src="image21.png" alt="Image" /></td>
<td><img src="image22.png" alt="Image" /></td>
<td><img src="image23.png" alt="Image" /></td>
<td><img src="image24.png" alt="Image" /></td>
<td><img src="image25.png" alt="Image" /></td>
</tr>
</tbody>
</table>

The Dashboard remembers which one of the views, ‘**MY**’, ‘Team’, ‘All’ or ‘New’ you were most recently viewing. So if you clicked the ‘**MY**’ tab on this visit, next time around, as soon as you log in to Confluence, only the list of your favourite spaces and the recently modified content within them will be displayed to you.

2. **Favourite Pages**

The dashboard will display a list of your most recently added favourite pages, so you can access them easily as soon as you login to Confluence.
3. All your favourites

You can view a list of all pages and spaces you added as favourites by going to your 'Profile'. This means that you no longer have to navigate through complicated site structures to find the pages that you are interested in but can go to them directly.

### Content labelled with "favourite"

<table>
<thead>
<tr>
<th>Page</th>
<th>Creator</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confluence 2.0 User Guide</td>
<td>Vidya Madabushi</td>
<td>15 hours ago</td>
</tr>
<tr>
<td>Documentation Staging</td>
<td>Charles Miller</td>
<td>26 Feb</td>
</tr>
<tr>
<td>Documentation Home</td>
<td>Vidya Madabushi</td>
<td>18 Nov</td>
</tr>
<tr>
<td>Confluence Release Notes</td>
<td>Vidya Madabushi</td>
<td>19 Oct</td>
</tr>
<tr>
<td>Confluence Installation Guide</td>
<td>Vidya Madabushi</td>
<td>12 Nov</td>
</tr>
<tr>
<td>Configuring Shortcut Links</td>
<td>Vidya Madabushi</td>
<td>19 Oct</td>
</tr>
<tr>
<td>Configuration Guide</td>
<td>Vidya Madabushi</td>
<td>24 Oct</td>
</tr>
</tbody>
</table>

### RELATED TOPICS

- Adding Favourites
- Removing Favourites
- Dashboard

Take me back to the Confluence User Guide.

### Adding Favourites

To add a page as a favourite,

1. Go to the page.
2. Click the 'Tools' menu located at the top right-hand corner of the page and choose 'Favourite'.
   This will change to 'Favourite' (when you next open the 'Tools' menu) to indicate that you have added this page as a favourite.

To add a global space as a favourite,

1. Go to the Dashboard.
2. Click on the star icon 'Favourite' located beside the space in the list of spaces displayed.
   This will change to 'Favourite' to indicate that you have added this global space as a favourite.

To add a personal space as a favourite,

- If a person has not yet created a personal space, then you will not be able to perform this procedure. Furthermore, these options will not be available to you.
1. Go to the People Directory.
2. Click on a person's name or profile picture to view their personal space.
3. Go to the 'Advanced' view for the space. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Advanced'. The 'Advanced' view will open.
4. Click on ‘🌟 Add Space to Favourites’ in the left-hand panel.
   This will change to ‘🌟 Remove Space from Favourites’ to indicate that you have added that person's personal space as a favourite.

Once you have added a personal space to your list of favourites, that personal space will be added to your list of favourite spaces, which can be accessed from the dashboard or your profile.

For more information about global spaces and personal spaces, see Working with Spaces Overview.

**RELATED TOPICS**

Viewing Favourites

Take me back to the Confluence User Guide.

**Removing Favourites**

To remove a page as a favourite,

1. Go to the page.
2. Click the 'Tools' menu located at the top right-hand corner of the page and choose ‘🌟 Favourite’.
   This will change to ‘🌟 Favourite’ to indicate that you have removed this page from your favourites.

To remove a global space as a favourite,

1. Go to the dashboard.
2. Click on the star icon ‘🌟’ located beside the space in the list of spaces displayed.
   This will change to ‘🌟’ to indicate that you have removed this global space as a favourite.

To remove a personal space as a favourite,

1. Go to the People Directory.
2. Click on a person's name or profile picture to view their personal space.
3. Go to the 'Advanced' view for the space. To do this:
   - Go to a page in the space, open the 'Browse' menu and select ‘Advanced’. The 'Advanced' view will open.
4. Click on ‘🌟 Remove Space from Favourites’ in the left-hand panel.
   This will change to ‘🌟 Add Space to Favourites’ to indicate that you have removed that person's personal space as a favourite.

**RELATED TOPICS**

Viewing Favourites

Take me back to the Confluence User Guide.

**Viewing Favourites**

On the Dashboard, you can view your favourite spaces within the 'MY' tab of the 'Spaces' section. Your most recently added favourite pages are also be shown within the 'Favourite Pages' section of the Dashboard.

To view all of your favourite spaces and pages,
1. Click on the 'Profile' link located at the top right-hand corner of the page.
2. Go to the 'Labels' tab. A list of your personal labels is displayed to the left of the screen under 'Your Labels'.
3. Click on 'Favourite'. This will display a list of all spaces and pages that you have added as favourites.

**Screenshot: Viewing your favourites**

See the personal labels you have created, and the other labels which you have used recently:

<table>
<thead>
<tr>
<th>Your Labels</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 favourite</td>
</tr>
<tr>
<td>1 rice</td>
</tr>
<tr>
<td>1 rottebad</td>
</tr>
<tr>
<td>1 something</td>
</tr>
<tr>
<td>2 stuff</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Content labelled with &quot;favourite&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon] Documentation Home</td>
</tr>
<tr>
<td>![Icon] Confluence Release Notes</td>
</tr>
<tr>
<td>![Icon] Confluence Installation Guide</td>
</tr>
<tr>
<td>![Icon] Configuring Shortcut Links</td>
</tr>
<tr>
<td>![Icon] Configuration Guide</td>
</tr>
<tr>
<td>![Icon] Backup and Restore</td>
</tr>
<tr>
<td>![Icon] Adding a Personal Label</td>
</tr>
<tr>
<td>![Icon] Adding a Global Label</td>
</tr>
<tr>
<td>![Icon] Confluence Administration Guide</td>
</tr>
<tr>
<td>![Icon] Documentation Staging 2</td>
</tr>
</tbody>
</table>

1 | 2 | Next >> (total: 13)

**RELATED TOPICS**

- Adding Favourites
- Removing Favourites

**User Profile Overview**

Each Confluence user has a User Profile area, through which numerous account management features can be accessed.

**On this page:**

- Finding your User Profile
- Profile
- Network
- Status Updates
- Labels
- Watches
- Drafts
- Settings

**Finding your User Profile**

Go to the 'Profile' view for your user profile. To do this:

- Log in to Confluence, if you have not already done so.
- Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
- Select 'Profile' from the dropdown list. The 'Profile' view will open.

The profile view is divided into the tabs, each described in a separate section below.

*Screenshot: User profile*
The 'Administer User' link is visible to Confluence administrators only. The administrator can click this link to go directly to the user management screen in the Administration Console.

Profile

- View and edit your personal details, such as your name and email address details and optionally, your photograph and other personal information.
- Upload a profile picture (optional).
- Change your password.

Network

- View the recent activity of users that you are following via the Network view.
- Follow other users from this view.

Status Updates

- View your history of status updates.

Labels

- View your personal labels.

Watches

- View a list of the pages and spaces you are currently watching.

Drafts

- Retrieve any pages you were in the process of editing. See Working with Drafts.

Settings
• Edit your General Settings (homepage, language and timezone).
• Subscribe to email notifications and modify other email notification preferences.

RELATED TOPICS

Tracking Updates Overview
Setting up your Personal Space

Take me back to the Confluence User Guide.

Changing Password

To change your Confluence password,

1. Go to the 'Profile' view for your user profile. To do this:
   • Log in to Confluence, if you have not already done so.
   • Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
   • Select 'Profile' from the dropdown list. The 'Profile' view will open.
2. On your 'Profile' tab, click the 'Password' link in the left-hand column.
3. Enter your current password and your new password in the form displayed.
4. Click 'Submit' to save your changes.

RELATED TOPICS

Viewing User Profile
Editing User Profile
Uploading a Profile Picture
Setting up your Personal Space
Managing Watches
Updating Email Address
Email Address Privacy

Take me back to the Confluence User Guide.

Editing User Settings

You can customise Confluence by choosing your Confluence settings and preferences — home page, language and time zone.

To edit your User Profile Settings,

1. Go to the 'Profile' view for your user profile. To do this:
   • Log in to Confluence, if you have not already done so.
   • Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
   • Select 'Profile' from the dropdown list. The 'Profile' view will open.
2. Click the 'Settings' tab.
3. Click the 'Edit' button.
4. Choose your General Settings in the form that is displayed:
   • Site Homepage — choose the page that you would like to see whenever you log into Confluence.
   • Language — choose your language.
   • Time zone — choose your time zone.
5. Click the 'Submit' button.

Screenshot: Editing your User Profile Settings
Editing User Profile

Your user profile contains basic information about you. If you do not have a personal space, your user profile will be displayed when anyone clicks your name in the People Directory.

To edit your user profile,

1. Go to the 'Profile' view for your user profile. To do this:
   - Log in to Confluence, if you have not already done so.
   - Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
   - Select 'Profile' from the dropdown list. The 'Profile' view will open.
2. On your Profile view, click 'Edit' in the Personal details section.
3. Enter details about yourself in the form displayed.
   - **Full Name** - enter your name as you would like it to appear in your profile.
   - **Email** - specify your email address which will be used to send you mail notifications.
   - **Phone** - enter your phone number.
   - **IM** - enter your Instant Messenger (IM) details.
     - To suit a variety of IM applications, this option accepts any 'string' value. For example, you can enter IM details in the form of an email address, such as 'name@chat.example-company.com' or a user ID, like '123456789'.
   - **Website** - enter your website's URL.
   - **Position** - enter the title of your position within your organisation.
   - **Department** - enter the name of your department within your organisation.
   - **Location** - enter the name of your location. This could be anything from a town or city to a region or country.
   - **About me** - Enter information about yourself that other users can view (such as your professional information, hobbies, and other interests). You can use Confluence markup in this field.
4. Click 'Save' to record your changes.

Screenshot: Edit profile
Handy Hint
Confluence administrators can configure Confluence to mask email addresses (e.g. 'example at atlassian dot com'), protecting your email address from search engine spiders and the like.

RELATED TOPICS
- Viewing User Profile
- Uploading a Profile Picture
- Setting up your Personal Space
- Managing Watches
- Email Address Privacy

Take me back to the Confluence User Guide.

Viewing Status Updates

A Confluence user's Status Updates view shows a history of updates they have made to their User Status message. This includes their current User Status and any previous Status Update messages, which they have retained.

Any user's current User Status message is shown on their:

1. Profile view
2. Profile Sidebar
3. Hover Profile pop-ups
A user can clear their current User Status message at any time and when they do, it will be removed from these three areas.

On this page:

- Accessing Your Status Updates View
- Clearing Your Current Status
- Deleting a Status Update

Accessing Your Status Updates View

To access your Status Updates view,

- Go to the 'Status Updates' view for your user profile. To do this:
  - Log in to Confluence, if you have not already done so.
  - Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
  - Select 'Status Updates' from the dropdown list. The 'Status Updates' view will open.

Clearing Your Current Status

You can clear your current User Status message either via your Status Updates view or your User Profile view.

To clear your current User Status message via your Status Updates view,

1. Go to the 'Status Updates' view for your user profile. Refer to Accessing Your Status Updates view (above) for this procedure.
2. Click 'Clear' in the top message. Your User Profile view will be displayed and the current User Status message cleared.

To clear your current User Status message via your Profile view,
1. Go to the ‘Profile’ view for your user profile. To do this:
   - Log in to Confluence, if you have not already done so.
   - Go to your name at the top of the page. (This is the ‘User’ menu. A dropdown list will appear when your cursor hovers over the ‘User’ menu.)
   - Select ‘Profile’ from the dropdown list. The ‘Profile’ view will open.
2. Click ‘Clear’ in your current User Status message at the top of the page. Your User Profile view will be refreshed and the current User Status message cleared.

Deleting a Status Update

To delete your current or a previous User Status message,

1. Go to the ‘Status Updates’ view for your user profile. Refer to Accessing Your Status Updates view (above) for this procedure.
2. Click ‘Delete’ next to the appropriate User Status message. Your Status Updates view will be refreshed and the message you deleted removed from the list.

RELATED TOPICS
User Profile Overview
User Status Overview
User Status List Macro

Email Address Privacy

Confluence can mask the email addresses of users to protect them from mail spammers.

This is done by a Confluence administrator and is configured through the Administration Console. The Confluence administrator has three options for email address privacy:

- **Public**: email addresses are displayed publicly.
- **Masked**: email addresses are still displayed publicly, but masked in such a way to make it harder for spam-bots to harvest them.
- **Private**: only Confluence administrators can see the email addresses.

For more information on setting these options, which are configured via the Administration Console, refer to User Email Visibility.

RELATED TOPICS
Editing User Profile
Viewing User Profile
User Email Visibility

Updating Email Address

The email address you specify in your profile settings is used for your mail notifications and is also displayed in your profile description.

To update your email address,

1. Go to the ‘Profile’ view for your user profile. To do this:
   - Log in to Confluence, if you have not already done so.
   - Go to your name at the top of the page. (This is the ‘User’ menu. A dropdown list will appear when your cursor hovers over the ‘User’ menu.)
   - Select ‘Profile’ from the dropdown list. The ‘Profile’ view will open.
2. While on the ‘Profile’ tab, click ‘Edit’ in the Personal details section.
3. In the Email field, specify your new email address which will be used when sending you mail notifications.
4. Click ‘Save’ to save your changes.
Uploading a Profile Picture

Your profile picture is used as the icon for your personal space, to represent you in the People Directory, and to illustrate your comments. You may upload your own profile picture, or use one of the images provided by Confluence. If you upload your own profile picture, you will have an opportunity to crop the picture in-line.

Please note that the final image will always be limited to 48x48 pixels.

To upload a profile picture,

1. Go to the 'Profile' view for your user profile. To do this:
   * Log in to Confluence, if you have not already done so.
   * Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
   * Select 'Profile' from the dropdown list. The 'Profile' view will open.
2. On your 'Profile' view, click the 'Picture' link in the left-hand column.
3. Either:
   a. Click the 'Browse' button to locate your picture file, then click the 'Upload' button to upload it from your computer or file server.
   b. Alternatively, you can select one of the default icons provided.
4. Click the 'Set Profile Picture' button.

If the picture is much larger than 48x48 pixels, the 'Edit My Profile Picture' screen appears.
To edit your profile picture,

This screen is automatically loaded when your uploaded profile picture is larger than 48x48 pixels.

1. Click and drag the centre of the superimposed square to select the centre of the new image.
2. Click the corners of the square to re-size the area for your new image.
3. Click the ‘Save’ button.
4. The image from your selected area will be cropped, re-sized to 48x48 pixels and saved.

Screenshot: Resizing a Profile Picture
Deleting a Profile Picture

You can delete the profile picture images that you have uploaded to Confluence.

To delete a profile picture,

1. Go to the 'Profile' view for your user profile. To do this:
   - Log in to Confluence, if you have not already done so.
   - Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
   - Select 'Profile' from the dropdown list. The 'Profile' view will open.
2. While on the 'Profile' tab, click the 'Picture' link in the left-hand column.
3. Locate the picture file you wish to delete, select it, then click the 'Delete' button to remove it from the Confluence server.
   Note that you can only delete images that you have uploaded to Confluence. The standard icons cannot be deleted.
4. You will be prompted to confirm the action, with the following message:
   "Do you really want to delete this profile picture? This action can not be un-done."
   Click Delete.
5. The picture is permanently removed from the server.
Viewing User Profile

A Confluence User's Profile view shows details about that person and lists their recent activity. If you are viewing your own Profile view, you can also update your profile picture and login password. If you are viewing another user's Profile view, you can add them to your Network of users you are following and if they have set up a Personal Space, you can add this to your list of Favourites.

To access your User Profile view,
Go to the 'Profile' view for your user profile. To do this:

- Log in to Confluence, if you have not already done so.
- Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
- Select 'Profile' from the dropdown list. The 'Profile' view will open.

Screenshot: User Profile View

Updating your Profile

You can update the following aspects of your Profile from this view:

- **Information about yourself** - to modify these details, see Editing User Profile.
- **Your Profile picture** - to change your Profile picture or upload a new one, see Uploading a Profile Picture.
- **Your login password** - to change your login password, see Changing Password.

You can switch between your Profile, Profile picture update and login password update views by clicking the 'Details', 'Picture' and 'Password' links in the left-hand column, respectively.

**RELATED TOPICS**

Editing User Profile
Managing Watches

Take me back to the Confluence User Guide.

**User Status Overview**

The **User Status** feature allows any Confluence user to broadcast short message rapidly, which other users can observe on various activity streams throughout Confluence. These short messages could include:
• A description about what you are working on
• A question you may want answered quickly
• A hyperlink that you share immediately with other users
• Any other message you may want to share quickly with other users

There are numerous activity streams throughout Confluence that show different types of User Status updates. These include:

• The Recently Updated list on the Confluence Dashboard, which shows all status updates (when the 'All' tab is selected).
• Your Network page, which shows the status updates of Confluence users you are following.
• The Network page of Confluence users who are following you, which shows your status updates.
• The Recently Updated and Recently Updated Dashboard macros, which shows all status updates (provided that these macros’ space parameters have been set to '@all').
• Any Confluence user's Activity section of their Profile Sidebar, which is available on all pages within their personal space and shows their status updates.

While activity streams show recent User Status updates, they may soon disappear from the end of the list as subsequent user activity items appear on these streams. However, you can view any Confluence user's current User Status message in the following areas:

• Their Hover Profile.
• The Profile section of their Profile Sidebar, which is available on all pages within their personal space.
• Their Profile page.

You can also view any Confluence user's entire history of User Status updates in their Status Updates page.

Setting or Updating Your User Status

To set or update your User Status,

1. Log in to Confluence, if you have not already done so.
2. Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
3. Select 'Update Status' from the dropdown list. The 'What are you working on?' window will open.
4. Enter a short message that encapsulates your current status or what you are working on. Status messages are limited to 140 characters. If you exceed this limit, you will not be able to update your status.
5. Click the 'Update' button and your new or updated User Status will be recorded on the activity streams (mentioned above), your Personal Space Sidebar, your Profile page and your Status Updates page.

Clearing Your Current User Status

You can clear your Current User Status either via your Profile or Status Updates views.

1. To clear your current User Status via your Profile view,

   1. Go to the 'Profile' view for your user profile. To do this:
      • Log in to Confluence, if you have not already done so.
      • Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
      • Select 'Profile' from the dropdown list. The 'Profile' view will open.
   2. In the current User Status message at the top of the page, click 'Clear' and your current User Status is cleared.
To clear your current User Status via your Status Updates,

1. Go to the ‘Status Updates’ view for your user profile. To do this:
   - Log in to Confluence, if you have not already done so.
   - Go to your name at the top of the page. (This is the ‘User’ menu. A dropdown list will appear when your cursor hovers over the ‘User’ menu.)
   - Select ‘Status Updates’ from the dropdown list. The ‘Status Updates’ view will open.
2. In the current User Status message at the top of the page, click ‘Clear’ and your current User Status is cleared.

### Network Overview

The network feature helps you keep track of what other users are doing throughout your Confluence site, by allowing you to ‘follow’ their recent activities. Unlike Confluence’s traditional content tracking features, which provide notifications on specified types of content updates made by any user, the network feature provides notifications on updates made by specific users that you choose to follow. The types of activities tracked by the network feature, include:
To start tracking another Confluence user's activities, you need to 'follow' them. Once you are following a user, all their tracked activities that you have permission to view will appear on your network view. This principle applies to all users throughout your Confluence site. Hence, if other users start following you, all your Confluence-based activities that they have permission to view will appear on their network views.

You can also subscribe to any Confluence user's network RSS feed and receive summaries on the activities of other users they are following in their network. Refer to Subscribing to a Network RSS Feed for more information on setting up a network RSS feed.

**Accessing Your Network View**

To access your network view,

- Go to the 'Network' view for your user profile. To do this:
  - Log in to Confluence, if you have not already done so.
  - Go to your name at the top of the page. (This is the 'User' menu. A dropdown list will appear when your cursor hovers over the 'User' menu.)
  - Select 'Network' from the dropdown list. The 'Network' view will open.

You can access your 'Network' view by clicking the More link in the Network section of your 'Profile Sidebar'.

You can access other user's network views via the 'hover profile' feature or from their 'profile sidebar'.

**Following Another User**

You can follow another user either via the hover profile feature, your Network view or via their Profile view.

To follow a user via the hover profile feature,
To follow a user via your network view,

1. Go to the network view for your user profile. Refer to Accessing Your Network View (above) for this procedure.
2. In the right-hand section of the page within the 'Following' section, enter the first few characters of any part of the full name or username of the user you wish to follow.
   Use Confluence's 'user picker' popup to select the appropriate user.
3. Click the 'Follow' button and you will start following this user.
   Repeat this procedure for any other users you wish to follow.
   If you refresh your Network view or subsequently revisit it, the profile picture(s) of the user(s) you just followed will appear within the 'Following' list on the right. Additionally, their tracked activities will start appearing in the 'Recent Activity' list on this page.

To follow a user via their profile view,

1. Go to the 'Profile' view of the relevant user profile. To do this:
   - Log in to Confluence, if you have not already done so.
   - Use the 'Hover Profile' feature or the 'Profile Sidebar' of the user whose 'Profile' view you wish to access.
     The user's 'Profile' view will open.
2. In the left-hand section of the page, click 'Follow' and you will start following this user.
   Repeat this procedure for any other users you wish to stop following. However, you may find this process easier using the Hover Profile feature.
   If you refresh or revisit your network view, the profile picture(s) of the user(s) you just followed will appear within the 'Following' list on the right. Additionally, their tracked activities will start appearing in the 'Recent Activity' list on this page.

Stop Following a User

You can stop following a user either via the hover profile feature or via their Profile view.

To stop following a user via the hover profile feature,

1. Open the user's 'hover profile' popup. To do this:
   - Log in to Confluence, if you have not already done so.
   - Move your mouse pointer over a user's linked name, which appears on the dashboard, a page or blog post.
     Wait until the hover profile popup appears on the page.
     The hover profile popup also appears whenever you move your mouse pointer over a user's profile picture throughout the Confluence interface.
2. Within the hover profile popup, click 'Stop Following' and you will stop following this user.
   Repeat this procedure for any other users you wish to stop following.
   If you refresh or revisit your network view, the profile picture(s) of the user(s) you just stopped following are removed from the 'Following' list on the right. Additionally, their tracked activities will stop appearing in the 'Recent Activity' list on this page.

To stop following a user via their Profile view,
1. Go to the 'Profile' view of the relevant user profile. To do this:
   - Log in to Confluence, if you have not already done so.
   - Use the 'Hover Profile' feature or the 'Profile Sidebar' of the user whose 'Profile' view you wish to access.
     The user's 'Profile' view will open.
2. In the left-hand section of the page, click 'Stop Following' and you will stop following this user.
   - Repeat this procedure for any other users you wish to stop following. However, you may find this process easier using the hover profile feature.
   - If you refresh or revisit your network view, the profile picture(s) of the user(s) you just stopped following are removed from the 'Following' list on the right. Additionally, their tracked activities will stop appearing in the 'Recent Activity' list on this page.

RELATED TOPICS
Network Macro
Hover Profile Overview
Subscribing to a Network RSS Feed

Subscribing to a Network RSS Feed
You can create an RSS Feed from any user's network view, allowing you to receive summaries on the activities of users they are following in their network. The types of activities tracked in these RSS feed summaries include:
   - Additions or edits to pages or blog posts
   - Comments added to a page or blog post or edits to existing comments
   - Updates to a user's User Status
   - Updates to a user's User Profile

To subscribe to a user's network RSS feed,

1. Locate the following icon which is available from the top-right of:
   - The 'Recent activity of the users you are following' section of your network page, or
   - The 'Activity of followed users' section of another user's network page.
2. Copy and paste the icon's link into your RSS newsreader.
3. To have your newsreader log into Confluence, you can add your username and password to the feed URL.
   - Please note that if you do this, someone with access to your RSS newsreader configuration can read these Confluence authentication details.

Customising your Network RSS Feed
Currently, Confluence does not provide a user interface mechanism for customising your network RSS feed. However, you can modify the maximum number of results and type of content displayed in these feeds by directly editing the RSS feed link in your RSS newsreader.

To modify the maximum number of results displayed in your RSS feed,

1. Edit the RSS feed link in your RSS newsreader.
2. Change the value of the max parameter from its default value of 40 to a value of your choice. The following example shows this parameter-value combination highlighted in red:
   http://confluence.atlassian.com/feeds/network.action?username=ggaskell&max=60&publicFeed=false&os_authType=basic&rssType=atom
3. Save the modified link in your RSS newsreader.

To modify the type of content displayed in your RSS feed,
1. Edit the RSS feed link in your RSS newsreader.
2. Append the parameter `contentType` to the end of the link, followed by an equals sign (\(=\)) and then add the appropriate content type value of your choice:
   - `USER_STATUS` — restricts the RSS feed to user status updates.
   - `PAGE` — restricts the RSS feed to page additions or updates.
   - `BLOG` — restricts the RSS feed to blog post additions or updates.
   - `ATTACHMENT` — restricts the RSS feed to attachment additions or updates.
   - `COMMENT` — restricts the RSS feed to comment additions or updates.

   Content type values are case-sensitive and when editing the network RSS feed link, ensure that each parameter is separated from the other by an ampersand (\&).

   The following example shows the content type parameter-value combination highlighted in red:
   
   `http://confluence.atlassian.com/feeds/network.action?username=ggaskell&max=40&publicFeed=false&os_authType=basic&rssType=atom&contentType=USER_STATUS`

3. Save the modified link in your RSS newsreader.

   Filtering for more than one type of content (by adding multiple values to the `contentType` parameter) is not supported.

**RELATED TOPICS**

Network Overview
Subscribing to RSS Feeds within Confluence

Take me back to the Confluence User Guide.

**Hover Profile Overview**

Hover Profile is a convenient tool that provides quick access to key information about other Confluence users, their User Profile features and Network functions, throughout the Confluence interface. When you move or hover your mouse over a user's name, an interactive popup balloon appears, providing you with immediate access to these features and functions.

On this page:
- Using Hover Profile
  - Hover Profile Layout
  - Accessing a Hover Profile
- Using the Hover Profile Popup Balloon

**Using Hover Profile**

Whenever you hover your mouse pointer over a user's name appearing on the Confluence interface, their hover profile popup balloon appears.

*Screenshot: Using Hover Profile*
Hover Profile Layout

The top section of the hover profile popup balloon shows the user's Full Name, Profile Picture and Email address, based on their current User Profile details. Beneath this is shown the user's current User Status message. The low edge of the hover profile popup balloon has interactive features, described below in Using the Hover Profile popup balloon.

Accessing a Hover Profile

Areas of the Confluence interface where hover profile popup balloons are accessible include:

- The Byline of a page or blog
- The People Directory
- The outputs of various Confluence Macros on a page or blog
- Page or blog edit histories or comparisons
- Page or blog information pages

Hover profile is not available in the administrative areas of Confluence, such as the user management features of the Administration Console.

Using the Hover Profile Popup Balloon

From a user’s hover profile popup balloon, you can easily:

- send an email to them,
- access their personal space (if they have one),
- access their profile, network or status updates views, or
- follow or stop following them. Please refer to the Network Overview page for details on using Confluence’s network features.

To email a user from their hover profile popup balloon,

1. Hover your mouse over the user’s name on the Confluence interface until their hover profile popup balloon appears.
2. Move your mouse directly into the popup balloon and click on the user’s email address. Your email client opens up a new message with that email address in the ‘To’ field.

To access a user’s personal space from their hover profile popup balloon,

1. Hover your mouse over the user’s name on the Confluence interface until their hover profile popup balloon appears.
2. Move your mouse directly into the popup balloon’s ‘More’ menu and click the Personal Space item. The user’s personal space page will be displayed.
   If the user does not have a personal space, then this item will not be available from the ‘More’ menu.

To access a user’s profile, network or status updates views from their hover profile popup balloon,
Customising Look and Feel

Confluence allows you to customise the 'look and feel' of an individual space on the Confluence instance through options available in the Space Administration menu. By default, the look and feel of a space is based on global settings configured from the Administration Console.

You need to be a space administrator to edit the look and feel of a space.

- Applying A Theme To A Space
- Change Confluence Browser Icon
- Changing a Space's Logo
- Customising Homepage
- Editing a Space's Colour Scheme
- Modifying Confluence Layouts Using Custom Decorators

RELATED TOPICS

Browsing a space
Administrator's Guide - Design and Layout

Take me back to Confluence User Guide

Applying A Theme To A Space

Themes allow you to personalise the 'look and feel' of Confluence. Themes can can be applied across Confluence or to individual spaces. Use themes if you want to add a new functionality or significantly alter the appearance of Confluence.

Themes are created and installed from the Administration Console by site administrators. Once a theme has been installed, a space administrator can then apply it to the space.

By default, no themes are applied and the look and feel of a space conforms to global look and feel settings.

To apply a theme to a space,

1. Go to the 'Space Admin' tab of the Browse Space view. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Space Admin'. The 'Space Administration' view will open.
     - 'Space Admin' is only displayed if you are a space administrator.

2. Now click 'Themes' in the left panel under the heading 'Look and Feel'. This will bring up a new screen. Any themes installed will be listed here. See screenshot below.
3. Click a radio button to select a theme.
4. Click 'Confirm'.

Screenshot : Applying a theme
Change Confluence Browser Icon

The Confluence logo is displayed in the user's browser to identify the Confluence browser tab. To use a custom image for your Confluence site:

1. Obtain or create an image in PNG file format. To maximise browser compatibility, it should be 32x32 pixels, 71x71 DPI and have 8 bit colour depth.
2. In your Confluence install, find the subdirectory
3. Backup the file favicon.png
4. Replace the favicon.png with your custom PNG image
5. Restart your application server

Users may need to clear their browser cache to view the new image.

To create an ICO out of your PNG image, you can use the freeware tool png2ico.

Changing a Space's Logo

In Confluence, you can replace the default logo for a space with a logo of your own choice.
You need to be a space administrator to replace a space's logo.

The instructions below refer to global spaces. For your personal space, your profile picture is used as the space icon.

To change a space's logo,

1. Go to the 'Space Admin' tab of the Browse Space view. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Space Admin'. The 'Space Administration' view will open.
   
   * 'Space Admin' is only displayed if you are a space administrator.

2. Click on 'Change Space Logo' in the left panel under the heading 'Look and Feel'. This will bring up a new screen. See screenshot below.

3. Use the browse option to locate the new logo and click 'Upload'.

Screenshot: Change space's logo

Change the logo for this space.

- Image
  - Current
    - (default)

- Image Data
  - H: 30
  - W: 42
  - GIF

RELATED TOPICS

Customising Look and Feel

Customising Homepage

Registered users of the site can choose the page to which they are directed after they log in to Confluence. By default, users are directed to the Dashboard after logging in.

To set the site home page,

1. Open the 'General Preferences' view. The page Navigating to the General Preferences View does not exist.
2. Click the 'Edit Profile' tab.
3. Click 'General', under 'Preferences' on the left navigation bar.
4. From the drop-down menu beside Site Homepage, select a space. Note that only the list of spaces to which you have 'view' access is displayed here. Selecting a space will direct you to its home page when you log in.
5. Click 'Save'.

Screenshot: General Preferences Settings
Editing a Space's Colour Scheme

Confluence allows you to customise the colour scheme of a space. By default, a space's colour scheme is based on global settings configured from the Administration Console.

You need to be a space administrator to edit a space's colour scheme.

To change the colour scheme for a space,

1. Go to the 'Space Admin' tab of the Browse Space view. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Space Admin'. The 'Space Administration' view will open.
   - 'Space Admin' is only displayed if you are a space administrator.

2. Click 'Colour Scheme' in the left-hand panel under the heading 'Look and Feel'. This will bring up a new screen.
3. Click the 'Select' button next to a colour scheme under 'Custom Colour Scheme' (if not already selected).
4. Click the 'Edit' link. This will bring up a new screen. See screenshot below.
5. Enter standard HTML/CSS2 colour codes, or use the colour-picker to choose a new colour from the palette provided. Any changes you make will immediately be reflected in this space.

The colour scheme applies to the following UI elements:

- Top Bar - the bar across the top of the page that contains the breadcrumbs
- Tab Navigation Background - the background colour of the tab navigation menus
- Tab Navigation Text - the text of the tab navigation menus
- Breadcrumbs Text - the breadcrumbs text in the top bar of the page
- Space Name Text - the text of the current space name located above the page title
- Heading Text - all heading tags throughout the space
- Links - all links throughout the space
- Borders and Dividers - table borders and dividing lines
- Tab Navigation Background Highlight - the background colour of the tab navigation menu when highlighted
- Tab Navigation Text Highlight - the text of the tab navigation menu when highlighted
- Top Bar Menu Selected Background - the background colour of the top bar drop down menu when selected
- Top Bar Menu Item - the text colour of the menu items in the top bar drop down menu
- Page Menu Selected Background - the background colour of the drop down page menu when selected
- Page Menu Item Text - the text of the menu items in the drop down page menu
- Menu Item Selected Background - the background colour of the menu item when selected (applies to both the top bar and page drop down menus)
- Menu Item Selected Text - the text colour of the menu item when selected (applies to both the top bar and page drop down menus)
Please note that some UI elements are specific to the default theme and may not take effect for other themes.

Screenshot: Editing a space’s colour scheme

<table>
<thead>
<tr>
<th>Custom Colour Scheme</th>
<th>A custom colour scheme which can be edited.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Bar</td>
<td>#003366</td>
</tr>
<tr>
<td>Tab Navigation Background</td>
<td>#3c78b5</td>
</tr>
<tr>
<td>Tab Navigation Text</td>
<td>#ffffff</td>
</tr>
<tr>
<td>Breadcrumbs Text</td>
<td>#ffffff</td>
</tr>
<tr>
<td>Space Name Text</td>
<td>#999999</td>
</tr>
<tr>
<td>Heading Text</td>
<td>#003366</td>
</tr>
<tr>
<td>Links</td>
<td>#003366</td>
</tr>
<tr>
<td>Borders and Dividers</td>
<td>#3c78b5</td>
</tr>
<tr>
<td>Tab Navigation Background Highlight</td>
<td>#003366</td>
</tr>
<tr>
<td>Tab Navigation Text Highlight</td>
<td>#ffffff</td>
</tr>
<tr>
<td>Top Bar Menu Selected Background</td>
<td>#336999</td>
</tr>
<tr>
<td>Top Bar Menu Item Text</td>
<td>#003366</td>
</tr>
<tr>
<td>Page Menu Selected Background</td>
<td>#6699cc</td>
</tr>
<tr>
<td>Page Menu Item Text</td>
<td>#535353</td>
</tr>
<tr>
<td>Menu Item Selected Background</td>
<td>#6699cc</td>
</tr>
<tr>
<td>Menu Item Selected Text</td>
<td>#ffffff</td>
</tr>
</tbody>
</table>

**Related Topics**

Customising Look and Feel

Take me back to Confluence User Guide

**Modifying Confluence Layouts Using Custom Decorators**

If you modify the look and feel of Confluence by following these instructions, you will need to update your customisations when upgrading Confluence. The more dramatic the customisations are, the harder it will be to reapply your changes when upgrading. Please take this into account before proceeding with your customisation.

Confluence is built on top of the Open Source SiteMesh library, a web-page layout system that provides a consistent look and feel across a site. SiteMesh works through ‘decorators’ that define a page’s layout and structure.

To edit the layout of Confluence, you will need to modify these decorator files. A decorator file is a vmd file and is written in a very simple programming language called Velocity. Learn more about Velocity. Once you become familiar with Velocity, you can edit the decorator files to personalise the appearance of Confluence.

You need to have System Administrator permissions in order to perform this function.
You can customise the layouts for a particular space or for the whole site. This page tells you how to customise layouts for a space. To customise the global layouts, use the 'Layout' menu on the 'Administration' page.

When you upgrade Confluence, you must reapply your custom layouts to the new default layouts.

These files are grouped into:

**Site layouts**: These are used to define the controls that surround each page in the site. For example, if you want to make changes to the header and the footer, you will need to modify these layouts.

**Content layouts**: These control the appearance of content such as pages and news items: they don't change the way the pages themselves are displayed, but they allow you to alter the way the surrounding comments or attachments are shown.

**Export Layouts**: These control the appearance of spaces and pages when they are exported to HTML. If you are using Confluence to generate a static website, for example, you will need to modify these layouts.

Learn more about using decorators.

**To edit a decorator file,**

1. Go to the 'Space Admin' tab of the Browse Space view. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Space Admin'. The 'Space Administration' view will open.
   - 'Space Admin' is only displayed if you are a space administrator.

2. Click the 'Layout' link in the left panel under the heading 'Look and Feel'. A list of the layouts for the space is listed.
   - Click 'View Default' to view the vmd file.
   - Click 'Create Custom' to edit the default vmd file. This will open up the vmd file in edit mode. Make changes and click 'Update'.

### Screenshot: Edit Layouts Example

<table>
<thead>
<tr>
<th>Decorator</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space Export Layout</td>
<td>&lt; default &gt;</td>
</tr>
<tr>
<td>Page Export Layout</td>
<td>&lt; default &gt;</td>
</tr>
</tbody>
</table>

Click thumbnail to view an example of a vmd file:

### RELATED TOPICS

- Customising Look and Feel
- Applying A Theme To A Space
- Administrator's Guide - Design and Layout

Take me back to Confluence User Guide

**Working with Templates Overview**

Whenever you add a new page you do not have to prepare it from scratch. Instead, you can base your new page on a template, which is essentially a page with pre-populated content.
Templates may be written in regular Confluence markup, or using special markup if you wish to define form fields to be filled in.

Some examples:

- A software development project may have a template for use-cases.
- A systems administration space may have a template for defining what information is kept about each server.

In Confluence, there are two places to store your templates:

- **Global Templates**: These are defined by site administrators through the Administration Console and are available in every space.
- **Space Templates**: These are defined by space administrators in the space administration screens, and are only available in the space in which they are defined.

Global templates can only be created by site administrators, and space templates by space administrators.

Here is an example:

**Step 2: Fill in template variables**

Choose values for the variables in this template. These values will be automatically inserted into the template for you in the correct locations.

```
This is a template about [Thing]

Name: [Name]
Phone Number: [PhoneNumber]
Date of Birth: [DOB]
```

**Note**

Currently, templates can only be used to create a page. Once a page is created, the template is gone and all further editing is performed as if the template was never used. Some plugins provide expanded functionality for strictly templated content. See below for more information.

**Important Plugins For Templates**

Two popular plugins that expand on template behaviour are the Zones Plugin and Scaffolding Plugin. Below is a comparison:

<table>
<thead>
<tr>
<th>Field</th>
<th>Default</th>
<th>Zones Plugin</th>
<th>Scaffolding Plugin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Basic</td>
<td>Flexible</td>
<td>Powerful</td>
</tr>
<tr>
<td>Saves page version history</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Allows return to form version</td>
<td>❌</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Suitable for dynamic data</td>
<td>❌</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Has a library of examples</td>
<td>❌</td>
<td>❌</td>
<td>✔️</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**
Adding a Template

You need to be a space administrator to create a space template.

To add a template for a space,

1. Click the 'Browse Space' link for the space. This is located at the top of every page and beside the space link on the dashboard.
2. Go to the 'Advanced' tab then click the 'Templates' option in the left navigation panel.
3. Click 'Add New Space Template'. This will bring up the 'Create Template' screen.
4. Enter a name for your template in the 'Name' text field and an optional description in the 'Description' text field.
5. Using regular Confluence markup and form field markup (if you are using forms), enter content in the text-entry box as you would in any other Confluence page. For example:

   ```
   h3. Client Information Form - *@$CLINFO*$
   | Type | @TYPE|list(Organisation, Individual)| |
   | Contact Person | @NAME| |
   | Contact Email | @EMAIL| |
   | Contact Phone | @PHONE| |
   | Origin | @COUNTRY|list(America, Africa, Asia, Europe,)| |
   | Site | @SITE| |
   | Notes | @DESCRIPTION|textarea(5x20)| |
   ```

6. Click 'edit' next to 'Labels' if you want to use labels to categorise information. Add your labels. These labels will be included in all pages created using this template.
7. Preview and click 'Save'. Your template will be added to the list of space templates.
8. To view the space templates, browse the space then click the 'Templates' option in the left navigation panel of the 'Advanced' tab.

For more information, check out this example template.

NEXT: Creating a Page using a Template

RELATED TOPICS

Working with Templates Overview
Editing a template
Removing a Template
Browsing a space
Working with Pages

Take me back to Confluence User Guide
Confluence allows you to create a page based on a global template (available to all spaces) or a space template (available only to that space). This page is intended for users who have already created a template.

Labels are copied from template

If the template contains labels, the template labels will automatically be included in the new page created from that template.

To create a page from an existing template

1. Click the 'Add Page' link located beside each space on the dashboard or at the top of every page in Confluence.
2. Click the link 'Select a page template' located above the text-entry box. This is only displayed if there are any templates defined. If you do not see this link, then there are currently no templates defined and an administrator will have to create one before you can use it.
   
   Clicking this link will display a list of the templates that are available in the current space.
3. Select a template and click 'Next'. This will display one of the following:
   - A new page based on the template, if the template does not contain a form.
   - The 'Template Variables' page where you can supply values for the variables, if the template contains a form.
4. If the template uses a form, enter the appropriate values into the form fields and click the 'Insert Variables' button. This will display a new page based on the template and including the variable values you have entered.
5. Replace the words 'New Page' with the name of the page.
6. Add more content or make further changes as required.
7. Click the 'Save' button.

Screenshot: Choose a template

**Step 1: Choose a page template**

Please choose a template from below:

<table>
<thead>
<tr>
<th>Name</th>
<th>Scope</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>template</td>
<td>Global</td>
<td>Test template</td>
</tr>
<tr>
<td>Documentation</td>
<td>Space</td>
<td>Documentation template</td>
</tr>
<tr>
<td>Staff Birthdays</td>
<td>Space</td>
<td>Staff Birthdays template</td>
</tr>
<tr>
<td>Test</td>
<td>Space</td>
<td>This is just a test</td>
</tr>
</tbody>
</table>

Screenshot: Fill out the form

**Step 2: Fill in template variables**

Choose values for the variables in this template. These values will be automatically inserted into the template for you in the correct locations.
Related Topics

Editing a template

You need to be a space administrator to modify a space template.

To edit a template,

1. Click on the 'Browse Space' link for the space. This is located at the top of every page and beside the space link on the dashboard.
2. Go to the 'Advanced' tab.
3. Click the 'Templates' link in the left-hand column. A list of templates for the space is displayed.
4. Click on the 'Edit' link beside the chosen template. This will bring up the 'edit' screen for the template.
5. Make changes or add new content as you would when you add a template, using form field markup, if required.
6. Click 'Update' to save your changes.

Related Topics

Adding a Template
Creating a Page using a Template
Working with Templates
Working with Pages

Take me back to Confluence User Guide

Removing a Template

You need to be a space administrator to remove a space template.
To remove a space template,

1. Click on the 'Browse Space' link for the space. This is located at the top of every page and beside the space link on the dashboard.
2. Go to the 'Templates' tab. A list of templates for the space is displayed.
3. Click on the 'Remove' link beside the template you wish to delete.
4. Confirm your action by clicking 'OK' when the confirmation screen is brought up.

**Warning**
Deleted templates cannot be restored.

**RELATED TOPICS**
Editing a template
Adding a Template
Creating a Page using a Template
Working with Templates
Working with Pages

Take me back to Confluence User Guide

**Archiving Mail Overview**

Confluence allows you to collect and archive mail within each space individually. This is a useful facility that allows you to archive all emails pertaining to a particular project on Confluence alongside it in the same space.

You can download mail from one or more pop-accounts. You can also import mail from mbox files either on your local system or on the Confluence server.

Mail is contained in the 'Mail' tab under the 'Browse Space' view of a space. You may need Space Administrator rights to access this view.

Go to the 'Browse Space' view. There are two ways to browse a space:

- Go to a page in the space and select the option you want from the 'Browse' menu. The corresponding tab of the 'Browse Space' view will open.
- Or click the icon next to the space name on the Dashboard. The 'Pages' tab of the 'Browse Space' view will open.

(If you are not a space administrator for the target space, contact your Confluence administrator to request Space Admin permission.)

From here, you can navigate mail easily and also use the 'Quick Search' to search mail and the attachments it contains.

What would you like to do?

Add a Mail Account
Manage Mail accounts
Import Mail
View Mail
Fetch Mail
Delete Mail
Restore Mail
Link to Mail

The ability to archive mail applies only to global spaces, not personal spaces. Please see Working with Spaces Overview for information about the differences between global spaces and personal spaces.

**RELATED TOPICS**

Take me back to Confluence User Guide
Adding a Mail Account

When you add a mail account, you are configuring Confluence to download mail from that account and archive it within the space. Since Confluence removes emails from an email account as it is added to the Mail Archive, Confluence must be setup to poll a clone email account rather than the actual account. For example, to archive the actual account sales@company.com to your Confluence Sales space, you must first create a clone account such as conf-sales@company.com that contains the same email content.

Stage 1 - Creating A Clone Email Account

1. Add a new email account on the mail server with the clone email address.
2. Copy all existing emails from the actual account to the clone account.
3. Set up the actual account to bcc sent emails to the clone account.
4. Set up the actual account to forward received emails to the clone account.

Stage 2 - Archive Clone Account To Mail Archive

1. If you are not a space administrator for the target space, contact your Confluence administrator to request Space Admin permission. You need to be a space administrator before you can add a mail account to the space.
2. Go to the ‘Browse Space’ view.
   * Go to a page in the space and select the option you want from the ‘Browse’ menu. The corresponding tab of the ‘Browse Space’ view will open.
   * Or click the icon next to the space name on the Dashboard. The ‘Pages’ tab of the ‘Browse Space’ view will open.
   Now click on ‘Mail Accounts’ under the heading ‘Mail’ in the left panel. This will bring up a new screen listing the existing mail accounts and displaying a link to add a new pop-account.
3. Click ‘Add mail account’ located at the top of the page. This will bring up a form into which you need to enter your account configuration details.
4. Enter the details, (Protocol may be POP/S or IMAP/S) (See below) and click ‘Create’. Configured accounts will have their mail downloaded and removed from the server, so make sure you are downloading from a clone account.

Screenshot Of Adding A POP Account

**Account Name:** Sample User

**Description:** Sample Users Account

**Protocol:** POP

**Hostname:**

**Port:**

**Username:**

**Password:** ************

Create | Test Connection | Cancel

* Account Name: Enter a name for this account by which it will be known in Confluence.
* Description: Provide a description for this account (Optional).
* Protocol: Choose from POP, IMAP, POP3 or IMAPS
* Hostname: Enter the account mail server host name.
* Port: The mail server’s port number will be displayed by default. Do not edit this field.
* Username: Enter a username for this account.
* Password: The account's password.

Note: The ability to import mail applies only to global spaces, so the 'Import' section in the above screenshot does not appear in the 'Space Admin' tab for personal spaces. Please see Working with Spaces Overview for information about the differences between global spaces and personal spaces.

RELATED TOPICS

Archiving Mail Overview
Managing Mail Accounts
Importing Mail
Deleting Mail

To delete mail for a space, you require 'Remove Mail' permission which is assigned by a space administrator from the Space Administration screens. See Space Permissions or contact a space administrator for more information.

Only a space administrator can delete all email messages for the space simultaneously.

To delete mail for a space,

1. Go to the 'Browse Space' view.
   - Go to the 'Browse Space' view. There are two ways to browse a space:
     - Go to a page in the space and select the option you want from the 'Browse' menu. The corresponding tab of the 'Browse Space' view will open.
     - Or click the icon next to the space name on the Dashboard. The 'Pages' tab of the 'Browse Space' view will open.

2. Go to the 'Mail' tab. A list of messages in the space is displayed in reverse chronological order.

3. Delete an individual email by clicking the trash icon beside it.
   - If you are a space administrator, you can delete all email messages within a space simultaneously by clicking on the 'Delete All' link at the top of the mail view. Deleted mail is stored under 'Trash' and can be restored by a space administrator from the 'Space Admin' tab.

WARNING

Email messages deleted using the 'Delete All' option cannot be restored.

RELATED TOPICS

Restoring Mail
Archiving Mail Overview
Browsing a space

Fetching Mail

Confluence fetches mail from the server once every 30 minutes.

You need to be a space administrator to manually retrieve new mail from mail accounts.

To manually retrieve mail,
1. Go to the 'Space Administration' view.
   Go to the 'Space Admin' tab of the Browse Space view. To do this:
   - Go to a page in the space, open the 'Browse' menu and select 'Space Admin'. The 'Space Administration' view will open.
     - 'Space Admin' is only displayed if you are a space administrator.

2. Go to the 'Mail' tab.

3. Go to the 'Mail' tab. A list of messages for the space is displayed in reverse chronological order.

4. Click on the 'Fetch new mail' link located above the list of messages. Any new messages will be displayed in order of most recent first.

**Note**
Once mail is fetched, it will be removed from the server.

**RELATED TOPICS**
Viewing Mail
Archiving Mail Overview
Deleting Mail
How do I Disable Automatic Mail Polling?

Take me back to Confluence User Guide

**Importing Mail**

Confluence allows you to import mail from mbox files located either on your local system or on the Confluence server and archive it within the space.

You need to be a space administrator to import mail for a space.

**To import mail from an mbox file,**

1. Go to the 'Space Admin' in the 'Browse Space' view.
   Go to the 'Browse Space' view. There are two ways to browse a space:
   - Go to a page in the space and select the option you want from the 'Browse' menu. The corresponding tab of the 'Browse Space' view will open.
   - Or click the icon next to the space name on the Dashboard. The 'Pages' tab of the 'Browse Space' view will open.

2. Click on 'Mail Import' under the heading 'Mail' in the left panel. This will bring up a new screen.
   - To import from a Local system, click 'Browse' to select the mbox file. Then click 'Import'.
   - To import from the Server, enter the location of the mbox file on the server in the 'Server' text field and click 'Import'.

**Screenshot: Importing mail**

Import mail from a standard mbox file by either uploading a local file or specifying its location on the server.

- **Local**
  Browse for mbox file on local filesystem:
  
  **Filename:** [Browse... Import]

- **Server**
  Specify location of mbox file on server:
  
  [Import]
The ability to import mail applies only to global spaces, so the 'Import' section in the above screenshot does not appear in the 'Space Admin' tab for personal spaces. Please see Working with Spaces Overview for information about the differences between global spaces and personal spaces.

**RELATED TOPICS**
- Archiving Mail Overview
- Adding a Mail Account
- Importing Mail

Take me back to Confluence User Guide

**Linking to Mail**

Currently in Confluence, while it is possible to link to a mail message, the method is a little cumbersome.

You need to edit in 'Wiki Markup' mode to create a link to an email.

To link to an email,

1. Go to the 'Browse Space' view.

Go to the 'Browse Space' view. There are two ways to browse a space:

   - Go to a page in the space and select the option you want from the 'Browse' menu. The corresponding tab of the 'Browse Space' view will open.
   - Or click the icon next to the space name on the Dashboard. The 'Pages' tab of the 'Browse Space' view will open.

2. Go to the 'Mail' tab. The mail is displayed in reverse chronological order with a default of 30 email messages per page.

3. Move between pages to locate the message you want to link to.
4. Click on the mail message. You will notice in the address bar of your browser that the URL displayed ends in a series of numerals.
5. Copy only the numerals.
6. Click on the 'edit' tab of the page from which you want to link to the message.
7. Paste the numerals between square brackets (as you would when you create any link in Confluence), and then include the dollar sign '$' in front of the numerals.

Here's an example:

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>[$123456]</td>
<td>Re: [CONF-user] ANN: Redirection Macros</td>
</tr>
</tbody>
</table>

Clicking on the link will open up the mail message.

**RELATED TOPICS**
- Working with Links Overview
- Archiving Mail Overview

Take me back to Confluence User Guide

**Managing Mail Accounts**

You need to be a space administrator to manage mail accounts for a space.

To manage mail accounts,

Go to the ‘Browse Space’ view. There are two ways to browse a space:

- Go to a page in the space and select the option you want from the ‘Browse’ menu. The corresponding tab of the ‘Browse Space’ view will open.
- Or click the icon next to the space name on the Dashboard. The ‘Pages’ tab of the ‘Browse Space’ view will open.

2. Click on ‘Mail Accounts’ under the heading ‘Mail’ in the left panel. This will bring up a list of the existing mail accounts each with a link to ‘Edit’, ‘Remove’ or ‘Disable’ the account.

- **Edit**: This link allows you to change the configuration settings for the mail account.
- **Remove**: This link lets you remove the account permanently.
- **Disable**: This link allows you to temporarily disable the account.

**Screenshot : Managing mail accounts**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Host</th>
<th>Status</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>conf-user_archive</td>
<td>Archive of conf-user</td>
<td>mail.adlassian.com</td>
<td>OK</td>
<td>Edit</td>
</tr>
<tr>
<td>ou</td>
<td>ui</td>
<td>ui</td>
<td>DISABLED</td>
<td>Edit</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

Archiving Mail Overview  
Adding a Mail Account  
Importing Mail  
Viewing Mail  
Fetching Mail  
Deleting Mail  
Restoring Mail  
Linking to Mail

**Restoring Mail**

Deleted email messages are stored under ‘Trash’ and can be restored by a space administrator from the Space Administration screens.

ℹ️ You can only restore an email from trash if it was deleted individually and not using the ‘Remove All’ operation.

To restore mail,


Go to the ‘Browse Space’ view. There are two ways to browse a space:

- Go to a page in the space and select the option you want from the ‘Browse’ menu. The corresponding tab of the ‘Browse Space’ view will open.
- Or click the icon next to the space name on the Dashboard. The ‘Pages’ tab of the ‘Browse Space’ view will open.

2. Click on ‘Trash’ in the left panel. A list of pages and emails deleted from the space is displayed.
3. Click on ‘Restore’ beside the email you want to restore.

To view this email, you will have to go to the ‘Mail’ tab in the ‘Browse Space’ view.

**RELATED TOPICS**

Viewing Mail  
Fetching Mail  
Deleting Mail  
Browsing a space

Take me back to Confluence User Guide
Viewing Mail

In Confluence, each global space can be set up to archive mail.

To view mail messages archived within a particular space,

1. Go to the 'Mail' tab in the 'Browse Space' view.

2. The mail is displayed in reverse chronological order with a default of 30 mails per page. You can move between pages by clicking the << Previous and Next >> links or by selecting a particular page number.

3. Click on a mail message to view its contents.

Navigating Mail

'Find More': These links links at the top of an email message let you search for other emails from the same author or on the same subject. 'Attachments': This link located below the email body allows you to view mail attachments. The link is only displayed if any attachments exist. 'Entire Thread': This link allows you to view the mail's thread, if one exists.

The 'Mail Operations' panel is located to the right of the mail view and displays links to:

- Entire Thread: View the thread that this mail belongs to. This option is only available when the mail belongs to a thread.
- Next By Date: Navigate to the next message.
- Previous By Date: Navigate to the previous message.
- Remove Mail: Remove the current mail from the space.
- Mail Archive: Go to the mail archive view for this space.

Handy Hint

Use the Quick Search facility to quickly locate a mail.
Confluence 3.0 Documentation

RELATED TOPICS
Archiving Mail Overview
Viewing Mail
Fetching Mail
Deleting Mail
How do I Disable Automatic Mail Polling?

Take me back to Confluence User Guide

Exporting a Space

Confluence allows you to export a part of, or the entire contents of a space to HTML, PDF or XML.

What would you like to do?
Export from Confluence to PDF
Export from Confluence to HTML
Export from Confluence to XML

RELATED TOPICS
Browsing a space

Take me back to Confluence User Guide

Confluence to HTML

Confluence allows you to export a part of, or the entire contents of a space into a zipped archive of HTML files. This is useful if you want convert your space into a static website.

To export pages to HTML, you will need ‘Export Space’ permission which is assigned by a space administrator. See Space Permissions or contact a space administrator for more information.

To export pages to HTML,

1. Go to the ‘Advanced’ view for the space. To do this:
   - Go to a page in the space, open the ‘Browse’ menu and select ‘Advanced’. The ‘Advanced’ view will open.
2. Click ‘HTML Export’ in the left-hand panel. This option will only be visible if you have ‘Export Space’ permission.
3. Select the check box ‘Include Comments’ if you want to include comments for the pages you are exporting.
4. Select the pages you want to export by selecting the check boxes in the tree view of pages displayed. By default, all pages are selected. You have the option to ‘Check All’ or ‘Clear All’ pages.
   - If you select the check box of a page that contains one or more child or descendent pages, all of these child and descendent pages will also be selected. Similarly, if you clear the check box of such a page, all of its child and descendent pages will also be cleared. This provides a convenient method of exporting subtrees, for example, chapters or sections within a document.
5. Click ‘Export’. This will create a zipped archive of HTML files.
6. Download the zipped archive and extract the files into a folder.

Notes

- Page attachments are placed in individual folders with names in the following format:
  ...\download\attachments\xxxxxx
  where ‘xxxxxx’ is the page ID of the page containing the attachments.
- By default, the ‘Space Details’ page is exported as index.html and displays the space’s details as well as a list of all available pages within it.
- News items are not included within the HTML export. Please cast your vote towards this feature request.

Screenshot: Selecting pages to export
Confluence 3.0 and later versions contain a new PDF Export feature that provides output customisation via Cascading Style Sheet (CSS) modifications. It also provides the ability to add a Table of Contents listing and customised headers, footers and a title page to exported documents too. These customisations are specific to each space in a Confluence installation and require the 'Space Administrator' permission to implement. For more information about implementing PDF Export customisations, see Editing the PDF Stylesheet.

Exporting Single Pages

You can export a single page in Confluence to PDF:

- Go to a page in the space, open the 'Tools' menu and select 'Export to PDF'. The process will begin, and you will be prompted by a series of dialog boxes.

Exporting Multiple Pages or the Entire Space

To export to PDF, you will need 'Export Space' permission which is assigned by a space administrator from the Space Administration screens. See Space Permissions or contact a space administrator for more information.
1. Go to the ‘Advanced’ view for the space. To do this:
   - Go to a page in the space, open the ‘Browse’ menu and select ‘Advanced’. The ‘Advanced’ view will open.
2. Click ‘PDF Export’ in the left-hand panel.
   This option will only be visible if you have the ‘Export Space’ permission.
3. Select the pages you want to export by selecting the check boxes in the tree view of pages displayed. By default, all pages are selected. You have the option to ‘Check All’ or ‘Clear All’ pages. See screenshot below.
   - If you select the check box of a page that contains one or more child or descendent pages, all of these child and descendent pages will also be selected. Similarly, if you clear the check box of such a page, all of its child and descendent pages will also be cleared. This provides a convenient method for exporting subtrees (for example, chapters or sections) of the entire documentation within a space.
4. Click ‘Export’.
5. Download and save the PDF file as prompted. Click or double-click the PDF file name to open it.

**Notes**

Only image attachments which have been inserted into a page are included when exporting to PDF.

To export a PDF containing international text, you need to install a Unicode font in Confluence.

News items are not included within the PDF export. Please cast your vote towards this feature request.

**Screenshot: Selecting pages to export**

Export content from this space as PDF.

You can customise the layout of the PDF export at Space Administration/PDF Stylesheet.

<table>
<thead>
<tr>
<th>Pages to export:</th>
<th>Check All</th>
<th>Clear All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confluence Documentation Home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confluence 101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators Guide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installing Patched Class Files</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cache Statistics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changing time of Daily Backup</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confluence Data Directory Configuration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confluence home directory contents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content Index Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finding Unused Spaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Important Directories and Files</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confluence Home Directory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confluence Installation Directory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manually Backing Up The Site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Configuring Daily Backups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Submitted Backup &amp; Restore Scripts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Migrating Confluence Between Servers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rebuilding the Ancestor Table</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restoring a Site</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If you have ‘Space Administrator’ permissions, the link to customise the PDF Stylesheet is provided at the top of the page tree, as shown in the image above.

Confluence’s PDF Export feature is designed to handle a wide variety of content. However, in the unlikely situation that the PDF Export process fails, perhaps due to a mishandled customisation, the PDF Export screen will indicate the title of the page in which the problem occurred to help you diagnose the cause of the failure.

**RELATED TOPICS**

Create PDF in another language
Confluence to HTML
Confluence to XML
Editing the PDF Stylesheet

Take me back to the Confluence User Guide.

Create PDF in another language

To export a Confluence page written in another language, you will first need to install the necessary font for that language. This will basically involve uploading a font file to Confluence.

Here are the exact steps on how to do this:

1. Find the appropriate font file

Windows users

All font files in Windows are stored in a directory called

\C:\WINDOWS\Fonts

Unix users

All font files in Unix are stored in the

/usr/share/fonts

Microsoft True Type core fonts such as Verdana can be downloaded from this page: http://corefonts.sourceforge.net/

2. Copy the font file

Simply copy the file into a temporary folder (for example a folder on the Desktop).

3. Upload the file

- Navigate to the Administration > PDF Language Support screen and upload the file you copied in step one.
- Click 'Install'. That's it.

Please note the only font files supported are true type fonts and true type collections (file extensions are *.ttf and *.ttc).

We recommend you to use Unicode font Verdana for correct character encoding and exporting to pdf.

Confluence to XML

Confluence allows you to export a part of, or the entire contents of, a space into a zipped archive of XML files.

This is useful if you want to make a backup of the space, export the space to another Confluence instance, or use the data from the space in another application. Please note that there are a few restrictions when Restoring a Space, and that huge spaces exported for backup-purposes may benefit from other means of backup - see Alternative Backup Strategy.

To export to XML, you will need 'Export Space' permission which is assigned by a space administrator. See Space Permissions or contact a space administrator for more information.

Site administrators can import a space from a zipped XML archive.

To export to XML,
1. Go to the ‘Advanced’ view for the space. To do this:

   - Go to a page in the space, open the ‘Browse’ menu and select ‘Advanced’. The ‘Advanced’ view will open.

2. Click ‘XML Export’ in the left-hand panel.
   This option will only be visible if you have ‘Export Space’ permission.

3. Select the check box ‘Include Comments’ if you want to include comments made on the pages you are exporting.

4. Select the check box ‘Backup Attachments’ if you want include the images and other files attached to the pages.

5. Select either ‘All’ or ‘Visible to you’. These options are explained below:
   - **All** — Export all content in the space, including pages that are protected by page-level restrictions which will prevent you from viewing the pages themselves. This option is available only to space administrators and Confluence administrators. It allows you to make a complete and comprehensive export of a space for backup purposes.
   - **Visible to you** — Export only content you can see. This is the default option.

6. If you choose ‘Visible to you’, you will then be able to select the pages you want to export. Select the relevant check boxes in the tree view of pages displayed. By default, all the pages are selected. You have the option to ‘Check All’ or ‘Clear All’ pages.

   If you select the check box of a page that contains one or more child or descendent pages, all of these child and descendent pages will also be selected. Similarly, if you clear the check box of such a page, all of its child and descendent pages will also be cleared. This provides a convenient method of exporting subtrees, for example, chapters or sections within a document.

7. Click ‘Export’. This will create a zipped archive of XML files.

Screenshot: Exporting a space

If you are running Confluence behind Apache HTTP Server and are facing timeout errors, please consider creating the export directly from Tomcat, instead of going through Apache. This will speed up the process and prevent timeouts.

**RELATED TOPICS**

- Browsing a space
- Restoring a Space
- Confluence to PDF
- Confluence to XML

Take me back to the Confluence User Guide.
Editing the PDF Stylesheet

Confluence's PDF Export feature addresses the most highly voted improvement request for Confluence — more control over PDF exporting. Users can customise their PDF exports using a PDF Stylesheet, which is specific to each space in a Confluence installation. The following aspects of PDF exports can be customised:

- Page and margin sizes
- Headers and footers, each with customisable content such as page numbering
- A customisable title page, which can incorporate images
- Built-in support for table of contents with page numbering

Most PDF Stylesheet customisations are handled using Cascading Style Sheets (CSS), while customisations to headers, footers and the title page are handled using a combination of custom HTML and CSS. Hence, you should be familiar with these technologies (or may require some familiarisation with them first), before implementing the customisations you require.

On this page:

- Customising the style of PDF exports
- Basic Customisations
  - Page Customisations
    - Customising the Page Size
    - Customising the Page Margins
  - Customising the Table of Contents
    - Disabling the Table of Contents
    - Change the Leader Character
  - Adding a Title Page to PDF-Exported Space or Subsection
  - Adding Headers and Footers
    - Adding page numbering to a header or footer
  - General Formatting

Customising the style of PDF exports

To customise the PDF Stylesheet, you will need the ‘Space Administrator’ permission which is assigned by a space administrator from the Space Administration screens. See Space Permissions or contact a space administrator for more information.

To customise the PDF Stylesheet:

1. Go to the ‘Space Admin’ tab of the Browse Space view. To do this:
   - Go to a page in the space, open the ‘Browse’ menu and select ‘Space Admin’. The ‘Space Administration’ view will open.
   - ‘Space Admin’ is only displayed if you are a space administrator.
2. Click ‘PDF Stylesheet’ in the left-hand panel. The main screen displays the current contents of your PDF Stylesheet customisations. The PDF Stylesheet is divided into the following four sections and allow for modifications to the:
   - PDF Export Stylesheet - containing all CSS rule customisations applied to the pages in the space.
   - PDF Export Title Page - containing custom HTML that generates the document's title page.
   - PDF Export Header - containing custom HTML that generates headers throughout the document.
   - PDF Export Footer - containing custom HTML that generates footers throughout the document.
3. Click the 'Edit' button and each of these four sections expands to an editable text box.
4. Enter your customisations into each section as required.

Refer to the Basic Customisations section for examples of typical customisations that can be added to your PDF Stylesheet. Once you are familiar with the implementation of basic PDF stylesheet customisations, you may wish to try out some Advanced Customisations.

- If no PDF customisations are defined on the PDF Stylesheet screen, the PDF Stylesheet feature's default CSS rules will be applied to your PDF exports. Furthermore, no title page, header or footer will be shown in these exports either.
  - The PDF Stylesheet's default CSS rules are available for download. Any rule defined in (but not limited to) this file can be customised and added to the PDF Export Stylesheet section.
- In general, you can override any default CSS rule by redefining it with your own customisations in the PDF Export Stylesheet section.
• As shown in the Confluence to PDF topic, there are two PDF export methods:
  • Single pages via the 'Tools' menu -> 'Export to PDF' function on a page or blog post ('single page exports')
  • One or more pages in a space via the 'Advanced' view ('space exports')

• All customisations, which include those made to your 'PDF Export Stylesheet', 'Title Page', 'Header' and 'Footer', apply to space exports. However, only the 'PDF Export Stylesheet' customisations inherently apply to single page exports.

• To make your 'PDF Export Header' and 'Footer' customisations apply to a single page exported to PDF, either:
  • use the 'space export' method to export that single page only, or
  • if your header and footer customisations contain only text, follow the appropriate customisations provided in the Advanced PDF Stylesheet Customisations topic.

Basic Customisations

Page Customisations

Modifications to page and margin sizes are made in the @page CSS rule.

To make changes to this rule, you would implement the following type of code in the 'PDF Export Stylesheet' section of the space's PDF Stylesheet.

```css
@page
{
  /*Page specific styles (that is, customisations of properties) go here*/
}
```

Customising the Page Size

The default page size is based on the locale of your Confluence server. Hence, if this server was located in the US, the default paper size of your PDF export would be US Letter size (8.5 inches wide by 11 inches long). If the server was located in Australia, the default paper size would be A4 (210 mm wide by 297 mm high).

To modify the page size to A4, add a size property to the top of the rule like this:

```css
@page
{
  /*The A4 paper size is 210 mm wide by 297 mm high*/
  size: 210mm 297mm;
}
```

More information about paper sizes can be found on Wikipedia.

Customising the Page Margins

To add a margin of 15 mm to a paper size of A4, your CSS @page rule would look like this:

```css
@page
{
  size: 210mm 297mm;
  margin: 15mm;
}
```

Customising the Table of Contents

By default, a table of contents will be generated after the title page, or at the beginning of the document if the 'PDF Export Title Page' is not defined. The look and layout of the table of contents is completely customisable by defining the appropriate CSS rules in the 'PDF Export Stylesheet'.

For details about the CSS rules governing the default styles applied to the table of contents output in PDF exports, download the default CSS rules (from the link above) and examine the specific rules with toc in its name.

Disabling the Table of Contents

To prevent the table of contents being generated in your exported PDF document, add the div.toc rule to the 'PDF Export Stylesheet'
section of the space's PDF Stylesheet and set its `display` property to `none`:

```
div.toc {
  display: none;
}
```

**Change the Leader Character**

The leader character is used to visually link the name of a heading in the table of contents list with its page number, which is usually aligned to the page's right-hand margin. By default, the leader character is the '.' (dot) character. However, it can be changed by customising the leader character CSS rule `span.toclead:before` and adding this to the 'PDF Export Stylesheet' section of the space's PDF Stylesheet.

To change this to a solid line, modify this CSS rule accordingly:

```
span.toclead:before {
  content: leader(solid);
}
```

To change this to spaces (that is, blank space), modify this CSS rule to:

```
span.toclead:before {
  content: leader(space);
}
```

Be aware that using a space as a leader character can make the table of contents list difficult to read.

**Adding a Title Page to PDF-Exported Space or Subsection**

You can create a title or cover page for an PDF-exported space or subsection using XHTML. Use the 'PDF Export Title Page' section of the space's PDF Stylesheet to do this. The following XHTML code example uses an inline CSS rule to generate a title page.

```
<div class="fsTitlePage" style="margin-left:auto;margin-top:75mm;margin-right:auto;">
  <img src="/download/attachments/12345/titlepage.png"/>
</div>
```

In the example above, an image called 'titlepage.png' will be centred in the middle of the page. This image is attached to a Confluence page and is referenced via its relative URL (that is, without the Confluence site's base URL component). You can obtain the URL of an image attached to a Confluence page by viewing the list of attachments on that page and moving your mouse over the attachment's name. The URL of the image should appear in your browser's status bar or you can copy the link.

**Adding Headers and Footers**

Headers and footers can be added to a PDF-exported space or subsection also using XHTML. Use the 'PDF Export Header' and 'PDF Export Footer' sections of the space's PDF Stylesheet to create a custom header and footer, respectively. For simple headers and footers, plain text is sufficient. The following example added to a header or footer will create a simple copyright notice.

```
Copyright © 2009, Atlassian Pty Ltd.
```

**Adding page numbering to a header or footer**

To add page numbering to your documentation, you need to combine some customised XHTML in the header or footer along with some customised CSS in the 'PDF Export Stylesheet'.

First, create a header or footer with an empty span element and give it a unique id, for example `pageNumber` (although this could be anything). This is the page number 'place holder' in your exported PDF document.

```
<span id="pageNumber"/>
```

Next, create the following CSS selector rule for this empty span and add it to the 'PDF Export Stylesheet':
Analysing this CSS selector rule in more detail, the `#pageNum` selects the XHTML element with the specified id of "pageNum", which is the span element we created for the header or footer. The `:before` part of the selector is a 'pseudo class' that allows the insertion of content before the span element is processed. The `counter(page)` is a function that returns the current page number as its content. Finally, the `content` property inside the rule tells the CSS processor that dynamic content (that is, an incrementing page number) is to be inserted before the span tag.

**General Formatting**

You can also use the stylesheet to customise the output of just about anything else that will influence the look and feel of the final document. This includes fonts, tables, line spacing, macros, etc. The export engine works directly from the HTML output produced by Confluence. Therefore, the first step in customising something would be to find a selector for the HTML element produced by Confluence or the Confluence macro. Next you would add a CSS rule to the 'PDF Export Stylesheet' and your customisation would appear in the PDF export.

**RELATED TOPICS**

Advanced PDF Stylesheet Customisations

This topic provides information and details on popular PDF stylesheet customisations. These expand upon the basic customisations described in the Editing the PDF Stylesheet topic.

On this page:

- Page Customisations
  - Changing the Page Orientation
  - Customising Specific Page Margins
- Page Header and Footer Customisations
  - Adding Headers and Footers to Single Page Exports
  - Adding Images to Headers and Footers
- Page Selector Rules

**Page Customisations**

Modifications to page and margin properties are made in the `@page` Cascading Style Sheet (CSS) rule. As described in Editing the PDF Stylesheet, all CSS rule customisations are implemented in the 'PDF Export Stylesheet' section of the space's PDF Stylesheet.

**Changing the Page Orientation**

To change the page orientation of your PDF space exports, reverse the order of the values declared in the `@page` rule's `size` property, since the first and second values of this property represent the width and height of the page, respectively.

For example, to generate PDF space exports in A4-sized landscape orientation, your `@page` rule might look like this:

```css
@page
{
/*A4-sized pages in landscape orientation are 297 mm wide by 210 mm high*/
size: 297mm 210mm;
}
```

**Customising Specific Page Margins**

To set the margins of each side of a page independently of the other, you can declare each margin size in the `@page` rule using the following properties:

<table>
<thead>
<tr>
<th>Properties</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>margin-top</td>
<td>Margin height at the top of the page.</td>
</tr>
<tr>
<td>margin-bottom</td>
<td>Margin height at the bottom of the page.</td>
</tr>
<tr>
<td>margin-left</td>
<td>Margin width on the left of the page.</td>
</tr>
</tbody>
</table>
Margin width on the right of the page.

For example, to generate PDF space exports with top and bottom margins of 1 inch and left and right margins of half an inch, your \page rule might look like this:

```css
@page
{
  margin-top: 2.54cm;
  margin-bottom: 2.54cm;
  margin-left: 1.27cm;
  margin-right: 1.27cm;
}
```

**Page Header and Footer Customisations**

**Adding Headers and Footers to Single Page Exports**

As mentioned in Editing the PDF Stylesheet, custom headers and footers by default, only apply to 'space exports' and not 'single page exports'. However, it is possible to add CSS rules to your PDF export stylesheet that allow custom headers and footers to appear in single page exports.

To make custom headers appear in single page exports, you need to define custom \top-left, \top-center and \top-right rules within your \page rule for content that appears within the left-hand side, centre and right-hand side of your page's header area.

Similarly, to make custom footers appear in single page exports, you need to define custom \bottom-left, \bottom-center and \bottom-right rules within your \page rule for content that appears within the left-hand side, centre and right-hand side of your page's footer area.

To add a document title to the centre of a header and a page number to the centre of a footer (with the word 'Page' preceding the page number), you can add the following header (\top-center) and footer (\bottom-center) rules within the \page rule of your PDF export stylesheet like this:

```css
@page
{
  /* Any page-specific properties */
  @top-center
  {
    content: "Document Title Goes Here";
    font-family: ConfluenceInstalledFont, Helvetica, Arial, sans-serif;
    font-size: 8pt;
  }
  @bottom-center
  {
    content: "Page " counter(page);
    font-family: ConfluenceInstalledFont, Helvetica, Arial, sans-serif;
    font-size: 8pt;
  }
  /* Any other page-specific rules */
}
```

- The font-family and font-size properties in these header and footer rules ensures that the header and footer text is rendered in the same default font style used for the body text (based on the default CSS rules).
- Please note that it is not possible to use this method to insert images (stored as attachments within your Confluence instance) into the headers and footers of single page exports.

**Adding Images to Headers and Footers**

To insert an image into a header or footer, you will need to edit the 'PDF Export Header' and 'Footer' sections of the PDF stylesheet and use an XHTML `img` element with `src` attribute to refer to an image attachment within your Confluence instance. This is usually placed within a `div` element container.

To add an image to the left of the header, you can add XHTML code to the 'PDF Export Header' that references the image, like this:

```html
<div style="margin-top:10mm">
  <img src="/download/attachments/12346/header-image.png"/>
</div>
```

In the example above, an image called 'header-image.png' is attached to a Confluence page and is referenced via its relative URL (that is, without the Confluence site's base URL component). You can obtain the URL of an image attached to a Confluence page by viewing the list
of attachments on that page and moving your mouse over the attachment's name. The URL of the image should appear in your browser's status bar or you can copy the link.

This code uses an inline CSS property in the `style` attribute to set formatting properties specific to this header image. The `margin-top:10mm` property forces the image away from the top of the page by 10mm. This comes in handy when your header image is large enough to touch or spill over the top of the page. Likewise, for footers, you can use the `margin-bottom:XXmm` property to force an image away from the bottom of the page by 'XX' mm.

Be aware that very large images can spill over into the body of a page or alter the position of text or other elements used within a header or footer. In such situations, it is recommended that you reduce the size of the image and then re-upload it to your Confluence instance.

By default, a header or footer image is aligned to the left-hand side of the page. However, you can align this image to the centre or right-hand side of a page by adding either the `text-align:center` or `text-align:right` properties, respectively to your `style` attribute. For example, to align the header image (above) to the right-hand side of the page, your `style` attribute would look similar to this: `style="margin-top:10mm; text-align:right"`.

To add an image to a footer, add similar XHTML code consisting of an `img` element and `src` attribute to refer to an image attachment within your Confluence site. Incorporate the inline CSS property `margin-bottom` to separate the image aware from the bottom of the page if necessary.

**Page Selector Rules**

If your PDF exports are destined for double-sided printed media (for example, books), you can define different customisations for left- or right-hand pages. This is achieved through two CSS pseudo-classes 'page selectors' that you define as separate rules within the PDF export stylesheet. Use the `:left` pseudo-class with the `@page` CSS rule to define customisations specific to left-hand pages and the `:right` pseudo-class with `@page` to define customisations for right-hand pages.

You can use these page selector CSS rules in your PDF export stylesheet to define alternating left and right margins that allows room for binding a double-sided document, as shown in the following example:

```css
@page {left {
  margin-left: 3cm;
  margin-right: 1.27cm;
  /* Any other left-hand page-specific properties and rules */
}

@page {right {
  margin-left: 1.27cm;
  margin-right: 3cm;
  /* Any other right-hand page-specific properties and rules */
}
```

**Exporting to a Word document**

Confluence allows you to export a single page into a Word document. This is extremely useful for emailing around content to non-Confluence users, printing a document or just creating a backup in Word.

You will require 'Export Pages' permission to export a page to a Word document.

To export to a Word document,

1. Go to the 'Export to Word' option for the page. To do this:
   - Go to a page in the space, open the 'Tools' menu and select 'Export to Word'. The process will begin, and you will be prompted by a series of dialog boxes.
2. By default, this will create a Word document with the same name as the Confluence page.

**Importing Content Into Confluence**

Confluence stores all page content in Confluence's wiki markup syntax.

On this page:

- Importing Content from Other Confluence Sites
- Importing Content from Other Wikis
- Importing Content from an Office Document
- Importing Web Content
- Importing Other Non-Wiki Content

**Importing Content from Other Confluence Sites**
For content originating from other instances of Confluence:

- If the Confluence major versions are the same, export the space from the originating Confluence site and import it into the destination Confluence site.
- If the Confluence major versions are different, you can use an intermediate server to migrate versions.

Page history, attachments, and wiki markup will be preserved and you will be able to do multiple pages at once. The drawbacks are that it may be inconvenient if the Confluence versions differ, and you cannot have a duplicate space key on the destination instance. (You cannot import a space that already exists, and this is defined by the space key.)

**Importing Content from Other Wikis**

Check whether the Universal Wiki Converter can import the content. See Importing Content from another Wiki.

**Importing Content from an Office Document**

The Office Connector in Confluence allows you to import an Office document into Confluence, so that the document's content is copied onto one or more Confluence pages. See Importing an Office Document into Confluence.

**Importing Web Content**

Here are some options for importing or displaying web content on a Confluence page:

- Use the Widget Macro to display videos, slide shows, twitter chats, documents and more, sourced from other web sites and displayed on your Confluence page.
- Convert a HTML file to a Confluence page using the HTML To Confluence Converter plugin.
- Embed an external web page into Confluence with the Html Include macro.
- Use HTML code in a page with the HTML macro.

**Importing Other Non-Wiki Content**

Importing non-wiki markup into Confluence requires a conversion process:

- Text with basic formatting can be pasted directly into the Rich Text Editor. This includes simple Word documents or web pages.
- Files such as Microsoft Excel documents can be imported using a content converter plugin.
- Confluence pages saved to disk can be imported from disk.

**RELATED TOPICS**

Working with the Office Connector
Importing Content from another Wiki

Take me back to Confluence User Guide

**Importing Pages from Disk**

Confluence allows you to import text files from a disk or a directory on the Confluence server, and convert them into corresponding Confluence pages. Each file will be imported as a Confluence page with the same name as the file.

You need to be a System Administrator to import text files.

To import text files,
1. Go to the ‘Space Admin’ tab of the Browse Space view. To do this:
   - Go to a page in the space, open the ‘Browse’ menu and select ‘Space Admin’. The ‘Space Administration’ view will open.
   - ‘Space Admin’ is only displayed if you are a space administrator.

2. Click on the ‘Import pages from disk’ link in the left panel under the heading ‘Import’. This will display a new screen.

3. Type in the directory’s path in the ‘Import directory’ text field.

4. Check ‘Trim file extensions’ to remove file extensions when converting the files to Confluence pages. Note that the Confluence pages will take their titles from the files’ names (including their extensions). So to avoid having page titles with the suffix ‘txt’ in them, make sure you check this box.

5. Check ‘Overwrite existing pages’ if you want to replace existing Confluence pages with the same page title.

6. Click ‘Import’.

**Screenshot: Importing text files**

<table>
<thead>
<tr>
<th>Import directory:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trim file extensions</td>
</tr>
<tr>
<td>Overwrite existing pages</td>
</tr>
</tbody>
</table>

The ability to import pages from disk applies only to global spaces, so the ‘Import’ section in the above screenshot does not appear in the ‘Space Admin’ tab for personal spaces. Please see Working with Spaces Overview for information about the differences between global spaces and personal spaces.

**RELATED TOPICS**

Take me back to Confluence User Guide

**Space Backup and Restore**

Confluence can backup all the content, comments and attachments for a space. The process involves converting the data in the space into XML format. The end product is a zip file that contains XML file(s) and optionally, all the attachments in the space. To transfer this data to another Confluence site, you simply restore this zip file.

*Creating a Space Backup*

Instructions on how to create a backup for a space can be found here.

*Restoring/Importing a Space Backup*

Instructions on how to restore or import the backup of a space can be found here.

**Site Backup and Restore**

Atlassian suggests establishing a backup strategy using a native database tool for a production instance of Confluence.

By default, Confluence backs up all data and attachments once a day to a backup file. These files are called XML site backups, stored in the backups directory of Confluence home. You can also create XML site backups manually. This mechanism was created with small to medium-sized deployments of Confluence in mind. It is not made for large deployments with lots of pages and attachments (see below)

- Restore your site from an XML site backup
XML site backups are fine for most small to medium sized instances of Confluence, containing a few thousand pages and attachments. However, large instances of Confluence will find backups may become slow to create and use large amounts of disk space.

**Backups For Large Instances**

XML site backups are unsuitable for instances of Confluence that contain thousands of pages, as XML backups take progressively longer to complete as the amount of text increases. Another issue with XML site backups is that Confluence instances with gigabytes of attachments will consume disk space rapidly. This is because each site backup contains all content needed for a site restore. For example, if a 1 gig instance of Confluence is backed up daily, it will create 30 gig of backups per month if left unattended. When administering a large instance, you can reduce disk space by setting XML site backups to exclude attachments, then manually scheduling a backup of your attachments from the Confluence home directory or database. The backup manager can save space by saving changed files instead of all content.

<table>
<thead>
<tr>
<th>Creation Delay</th>
<th>Disk Usage</th>
<th>Recommended Backup Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptable</td>
<td>Acceptable</td>
<td>XML site backup with attachments</td>
</tr>
<tr>
<td>Acceptable</td>
<td>Unacceptable</td>
<td>XML site backup minus attachments, plus manual backup of attachments</td>
</tr>
<tr>
<td>Unacceptable</td>
<td>Unacceptable</td>
<td>Manual backup of database and attachments</td>
</tr>
</tbody>
</table>

**Creation Delay** is the time it takes to create an XML site backup minus attachments. **Disk Usage** can be estimated by multiplying the frequency of your XML site backups by their current size.

**Manual Backups**

Confluence's attachment storage configuration can be set to store attachments in the Confluence home directory, or in the database.

**Database Backup**

Use your Database Administration Tool to create a backup of your Confluence database. If your database is storing your attachments, importing this later will restore all content. For instances with big attachments, please note that currently Confluence migrate attachments in a single transaction: CONF-9888.

**Attachment Backup**

If stored on the filesystem, attachments are placed under the attachments directory of your Confluence home directory. Copy this directory to create a backup of all attachments.

To restore from these backups, please refer to Restoring Data from other Backups.

**RELATED TOPICS**

Alternative Backup Strategy
Backup FAQ

**Alternative Backup Strategy**

**Confluence's Built-in Backup**

Confluence automatic daily XML backup is ideal if you:

- are evaluating Confluence
- do not have database administration familiarity, and your Confluence installation is small

But once your Confluence installation reaches more than a few thousand pages, the XML backup facility can be inefficient compared to your database's own backup tools.

**Establishing a Production System Backup Solution**

The built in backup functionality in Confluence requires a lot of memory to run and is less reliable when restoring. Atlassian recommends establishing an alternative database backup strategy:

- Create a backup or dump of your database using tools provided by your database
- Create a file system backup of your Confluence home directory

Once this is in place, disable the daily backups from Administration > Daily Backup Admin.

We want to stress that creating these two backups is just as good as having a Confluence XML backup, and a lot more robust for large production instances. You will be able to restore your whole site, including all data, attachments and configuration information intact with these two backups. We have written up a document on how to do this here.

**Step by step instructions**
Take a look at the Migrating Confluence Between Servers document for instructions on restoring a backup using this technique.

Other processes

XML backups are described and used for other processes in Confluence, like upgrading and moving servers. Using the backup strategy described here will work for those processes. Our upgrade guide does not require the use of an xml backup (an old upgrade procedure, and the JIRA upgrade guide use XML backups for upgrading); and our migrate server procedure - used to set up a test server - can leverage an sql dump as well.

The only process that requires the XML backup is the database migration procedure. Large data sets will require third party database migration tools.

RELATED TOPICS

Site Backup and Restore
Backup FAQ

Security Overview

Open or closed? It's your call.

Confluence gives you the choice to make the site as open or as closed as you wish. Here are some points to consider:

- As a tool for communication and collaboration, Confluence is at its best when all your users can participate fully.
- So it's advisable not to restrict users unless you have a good reason for doing so.
- Confluence keeps a history of all changes to pages and other content. So it is easy to see who has changed what, and to reverse any edits if required.

There are three levels of permissions in Confluence.

Levels of Permission

Global Permissions

Global permissions are site-wide permissions, and are assigned by administrators. Confluence allows two levels of administrator permissions:

- System Administrator - Users with this permission can perform all the Confluence administrative functions.
- Confluence Administrator - Users with this permission can perform most of the Confluence administrative functions, but excluding those functions which could compromise the security of the Confluence system.

Users with 'System Administrator' or 'Confluence Administrator' permission can assign permissions to other users. For full details, please refer to the overview of global permissions in the Administrator's Guide.

Space Permissions

The permission to create a new space or to administer one is granted by a Confluence Administrator from the global Administration Console.

Every space has its own independent set of permissions. These permissions determine the access settings for different users of the space. In order to assign these permissions to other users, a user must be a space administrator i.e. must have the 'Admin' permission for that space.

See Users and Groups to learn how these permissions are assigned.

Page Restrictions

You can set page-level restrictions, if you have the 'Restrict Pages' permission within the space concerned.

Page restrictions allow you to control who can view or edit individual pages. To set page restrictions, edit the page and use the page restriction options below the text-entry box.

More Information

How do space permissions and page restrictions work together?

Example: In the HR (Human Resources) space, everyone in the organisation has the 'View' space permission, but only the HR team has the 'Pages --> Create' space permission (i.e. the ability to create and edit pages in the space). A member of the HR team starts to create a new page called 'Annual Leave Policy'. Because the page is not yet finished, she sets the 'Viewing' page restriction so that only the HR team can view the page. When the page is finished, she will remove the 'Viewing' restriction so that everyone in the company can see the page.
How do space permissions and page restrictions affect links?

Space permissions and page restrictions affect how links between pages are displayed to a visitor:

- if the link points to a page in a space to which the visitor does not have 'View' space permission, the link will not be rendered at all.
- if the visitor has 'View' space permission, but page restrictions prohibit her from viewing the page, the link will be rendered but an 'Access Denied' message will be displayed when she clicks the link.
- if the visitor has 'View' space permission, and is not restricted from viewing the page, the link will display and behave as normal.

Links to attachments are also affected:

- if the visitor does not have permission to view the page to which the attachment is attached, the link will not be rendered.

**Warning**

If you misconfigure a space so that nobody has access to administer it any more, you will need to have someone in the 'confluence-administrators' group fix the permissions for you.

RELATED TOPICS

Users and Groups
Viewing Space Permissions
Assigning Space Permissions
Page Restrictions

Take me back to Confluence User Guide

Page Restrictions

Page restrictions allow you to control who can view or edit individual pages. You can set the page restrictions when editing a page, using menus below the text-entry box.

When a page you are viewing has restrictions applied, a small padlock icon appears next to the page byline. Clicking the padlock will take you to the Information View, where full details on the page restrictions are displayed.

In order to set or modify page restrictions, you need to have both:

- 'Restrict Pages' permission in the space to which the page belongs (since page restrictions operate within the bounds of space permissions).
- Permission to edit the page itself. That is, if a user is prevented from editing a page through page restrictions, they are also prevented from changing the restrictions themselves.

Page Security Rules

Users can only view page or space content for which they (or a group they are in) have 'View' permission. Pages that a user does not have 'View' access to are referred to as 'inaccessible' pages. Visit Inaccessible Page to see how Confluence deals with pages a user cannot view:

- Anonymous users are directed to the login page.
- Logged-in users are shown a permissions error page.

It is not possible to conceal the existence of pages, though you can restrict 'View' access to page content. To keep the existence of a page or space secret, do not link to it from other sources.

Users will still be able to find the page if they know its URL. But they will not be able to view the content if they don't have the correct permissions.

Inherited Restrictions and Child Pages

If a page has its 'View' restriction set, that restriction will be inherited by all its children (and their children, and so on). If a 'View' restriction is added to a page that has already inherited page restrictions from its parent, users must satisfy both restrictions in order to see the page.

'Edit' restrictions are not inherited from the parent page, only from the space.

Example of Child Page Restrictions

Consider the page 'Documents', with a child page 'Executive', which itself has a child page 'Payroll'. To begin with, anyone who can view the space to which these pages belong can see all three pages.

For security reasons, 'View' restrictions are set on the 'Executive' page, restricting it to the 'mycompany-management group'. At this point, anyone can still see the 'Documents' page, but you must be in the 'mycompany-management group' in order to view either 'Executive' or 'Payroll'.

Since 'Payroll' information is considered particularly private, the 'Payroll' page then has its page restrictions set to only allow members of the
'mycompany-financial' group to view it. At this point, anyone can see the 'Documents' page, only members of 'mycompany-management' can see 'Executive', and only users who are members of both the 'mycompany-management' and 'mycompany-financial' groups can view 'Payroll'.

**How to Open Part of a Space**

Often there are cases for which a section of a space should be opened to a group or set of users (for this example, we'll call them group B), but the rest of the space should not be visible to your main users (for this example, we'll call them group A). In this case:

1. Add 'view' permission for both groups A and B in space permissions.
2. Move the page to be opened to the root of the space. When browsing the pages in the space, your normal space home page and this page should both be at the root level.
3. Add a page restriction to allow Group A and B to see this page.
4. Add a page restriction to your main landing page for Group A, thereby excluding this set of pages from Group B.

You can repeat this with any page hierarchy.

---

**Administrators**

- Space administrators are responsible for the management of a space and its contents. They therefore have the ability to remove all restrictions from a page (as described in 'Viewing Restricted Pages'). This means that space administrators can view and edit all content in the space.
- Users who are members of the 'confluence-administrators' group ('super-users') can view all pages regardless of the page restrictions. To be able to edit the page, you will need to remove the restriction from it first – go to 'Space Administration' > 'Restricted Pages'.

---

**You cannot exclude yourself**

As creator or editor of a page, you cannot use page restrictions to deny yourself access to the page. Confluence will automatically add your username into the list of users/groups allowed to view/edit the page. If you remove your username, Confluence will put it back again.

---

**What would you like to do?**

- View a Page's Restrictions
- Set a Page's Restrictions
- View All Restricted Pages

**RELATED TOPICS**

- Working with Pages

**Take me back to Confluence User Guide**

**Setting a Page's Restrictions**

Page restrictions control who may view or edit a specific page, within the bounds of the space permissions. This gives the space administrator control over who can access their space, and within that the page editor can control access to the page.

- **Viewing restrictions** make the page invisible to everyone except the chosen users/groups.
- **Editing restrictions** prevent everyone except the chosen users/groups from editing the page.

You can choose as many users/groups as you like.

In order to set or modify page restrictions, you need to have the 'Restrict Pages' permission in the space to which the page belongs, as well as permission to edit the page itself.

**To set 'viewing' restrictions on a page,**
1. Click the 'Edit' link at the top of the page.
2. The word 'Restrictions' will now appear at the bottom of the page (above 'Labels'). Click the 'Edit' link next to the word 'Restrictions'.
3. A form will appear below the word 'Restrictions', as shown in the screenshot below. The option 'Restrict viewing of this page' will be selected by default.
4. Choose the appropriate user(s) and/or group(s) who you want to allow to view the page:
   - To choose just yourself, click 'Choose me'.
   - To choose a particular user, you can either:
     - If you are unsure of the user's exact name, click the 'Choose users' link to display the 'User Search' popup window. Use the search options to find the required user. Select the appropriate user(s), then click the 'Select user(s)' button. (You can read more about searching for users.)
     - Type the user's name (or a list of names, separated by commas) into the 'Enter user/group name(s)' box, then click the 'Add' button.
   - To choose a particular group(s), you can either:
     - If you are unsure of the group's exact name, click the 'Choose groups' link to display the 'Group Search' popup. Type part of the name, then click the 'Search' button to display a list of matching groups, e.g. to search for groups whose names start with 'finance', type 'finance'. Select the appropriate group(s), then click the 'Select group(s)' button.
     - Type the group name (or a list of groups, separated by commas) into the 'Enter user/group name(s)' box, then click the 'Add' button.
5. Click the 'Save' link at the bottom of the page.

Screenshot — Adding restrictions to a page

To set 'editing' restrictions on a page,

1. Click the 'Edit' link at the top of the page.
2. The word 'Restrictions' will now appear at the bottom of the page (above 'Labels'). Click the 'Edit' link next to the word 'Restrictions'.
3. A form will appear below the word 'Restrictions', as shown in the screenshot above. Select 'Restrict editing of this page'.
4. Choose the appropriate user(s) and/or group(s) that you want to allow to edit the page, as described for 'viewing' restrictions above.
5. Click the 'Save' link at the bottom of the page.

Checking restrictions are applied to a page

When a page you are viewing has restrictions applied, a small padlock icon appears next to the page byline. Clicking the padlock will take you to the 'Information View', where full details on the page restrictions are displayed.

Note

View and edit restrictions apply to all users including space administrators. However, space administrators can remove any restriction on a page. See Viewing Restricted Pages.

RELATED TOPICS

Space Permissions Overview
Viewing a Page's Restrictions
Viewing Restricted Pages
Working with Pages

Take me back to Confluence User Guide

Viewing a Page’s Restrictions

Viewing page restrictions in View mode

When a page you are viewing has restrictions applied, a small padlock icon appears next to the page byline. Clicking the padlock will take you to the Information View, where full details on the page restrictions are displayed.

Viewing page restrictions in Edit mode

A page’s restrictions can also be viewed when the page is in Edit mode. You can only enter Edit mode if you have permission to edit the page.

To view the restrictions that apply to a page,

1. Click the ‘Edit’ link at the top of the page.
2. The word ‘Restrictions’ will now appear at the bottom of the page (above ‘Labels’). Any ‘Viewing’ restrictions or ‘Editing’ restrictions are listed below the word ‘Restrictions’.

Screenshot — Page restrictions

Restrictions: EDIT

Viewing: atlassian developers
Editing: rosie

Labels: EDIT

RELATED TOPICS

Setting a Page’s Restrictions
Viewing Restricted Pages
Working with Pages

Take me back to Confluence User Guide

Site Administrators and their permissions

All site administrative functions are performed from the Administration Console. You need to have System Administrator or Confluence Administrator permissions to access the Administration Console.

The Confluence permission scheme allows two levels of administrator permissions:

- **System Administrator** – full administrative access to Confluence.
- **Confluence Administrator** – access to most of the Confluence administrative functions.

Please refer to the overview of global permissions in the Administrator’s Guide for full details.

RELATED TOPICS

Users and Groups

Take me back to Confluence User Guide

Space Administrators and their permissions

A space administrator is a user with the ‘Space Admin’ permission for a space. This permission itself is assigned from the Space Administration screens by a space administrator.

Who is a space administrator?

The person who creates a space is automatically the administrator of that space. That person can then assign other space administrators as required.
Confluence administrators are not necessarily space administrators

- A user who has the 'Administer Confluence' permission is not automatically a space administrator for a particular space. In order for them to be a space administrator, they must belong to a group which has space administration rights on the space, or their username must be specifically granted space administration rights on the space.
- Users who are members of the 'confluence-administrators' group do automatically have space administration permissions for all spaces.

Refer to the Administrator's Guide for more details about Confluence administrator permissions.

What can a space administrator do?

A space administrator has permission to do anything in the space regardless of any other setting. Space administrators are responsible for the management of a space and its contents. Note that page permissions affect space administrators differently from other users.

Space administrators can:

- view all content in the space. If there are page permissions that restrict the viewing of a page to a single user, or to a group to which the space administrator doesn't belong, a space administrator can still view the page by removing the restriction.
- edit all content on any page in the space.
- remove restrictions from any page in the space (using the Space Administration interface).
- grant themselves any other space permissions (e.g. permission to set restrictions on a particular page).

All space administration functions are performed from the 'Space Admin' tab under the 'Browse Space' view of a space. You need to be a space administrator to access the Space Administration screens.

RELATED TOPICS

Space Permissions Overview
Take me back to Confluence User Guide

Space Permissions Overview

Every space has its own independent set of permissions.

Space permissions can only be granted by a space administrator. A space administrator has permission to do anything in the space regardless of any other setting.

Permissions can be assigned to any group, to any individual user in the Confluence-User group, and to users in the Anonymous group.

These are the different permissions that can be assigned at the space level:

- **View:** user can view this space's content, including the space's details, and its pages and news items (blog posts)
- **Pages:**
  - Create - user may create and edit pages in this space.
  - Export - user may export pages in this space.
  - Restrict - user may apply page level permissions.
  - Remove - user may remove pages in this space.
- **News** (i.e. blog posts):
  - Create - user may post news items in this space.
  - Remove - user may remove news items in this space.
- **Comments:**
  - Create - user may make comments in this space.
  - Remove - user may remove comments from this space.
- **Attachments:**
  - Create - user may add attachments in this space.
  - Remove - user may remove attachments from this space.
- **Mail:**
  - Remove - user may delete individual mail items.
- **Space:**
  - Export - user may export content from this space.
  - Admin - user has administrative permissions over this space.
Warning
If you deny all administrative access to a space by mistake, so that nobody has access to administer the space any more, you will need to ask someone in the confluence-administrators group to fix the permissions for you.

RELATED TOPICS
Space Administrators and their permissions
Users and Groups
Viewing Space Permissions
Assigning Space Permissions
Revoking Space Permissions
Page Restrictions

Take me back to Confluence User Guide

Assigning Space Permissions

Space permissions can be assigned to user groups or to individual users of Confluence.

You need to be a space administrator to assign space permissions.

These are the different permissions that can be assigned at the space level:

- **View:** user can view this space's content, including the space's details, and its pages and news items (blog posts)
- **Pages:**
  - Create - user may create and edit pages in this space.
  - Export - user may export pages in this space.
  - Restrict - user may apply page level permissions.
  - Remove - user may remove pages in this space.
- **News** (i.e. blog posts):
  - Create - user may post news items in this space.
  - Remove - user may remove news items in this space.
- **Comments:**
  - Create - user may make comments in this space.
  - Remove - user may remove comments from this space.
- **Attachments:**
  - Create - user may add attachments in this space.
  - Remove - user may remove attachments from this space.
- **Mail:**
  - Remove - user may delete individual mail items.
- **Space:**
  - Export - user may export content from this space.
  - Admin - user has administrative permissions over this space.

Warning
If you deny all administrative access to a space by mistake, so that nobody has access to administer the space any more, you will need to ask someone in the confluence-administrators group to fix the permissions for you.

To access the space permissions,

1. Click the 'Browse Space' link for the space. This is located at the top of every page and beside the space link on the dashboard.
2. Go to the 'Space Admin' tab. This tab is only displayed if you are a space administrator.
3. Click the 'Permissions' link in the left-hand panel under the heading 'Security'. This will display the space's current permissions assigned to the different groups and users.
4. Click the 'Edit Permissions' button.
5. The 'Edit Space Permissions' screen appears, as shown below.

To assign space permissions to groups,
To assign space permissions to users,

1. Access the 'Edit Space Permissions' screen as described above.
   The **Individual Users** section shows a list of users who already have permissions to access the site.
   - To assign permissions, check the box next to the relevant user, for each of the required permissions.
   - To deny a permission, uncheck the relevant box.
   - To add a new user to the list, type the username into the text box labelled 'Grant browse permission to' and click the 'Add' button. The user will appear in the list of users, with 'View' permission assigned, and you can then add more permissions if necessary.
   - To search for a user:
     - Click the icon.
     - The 'User Search' window will appear. You can read more about searching for users.
     - Check the boxes to select the required user(s).
     - Click the 'Select User(s)' button. The username(s) will appear in the 'Grant browse permission to' text box.
     - Click the 'Add' button.

2. Click 'Save All' to apply the permissions.

To assign space permissions to anonymous users,

1. Access the 'Edit Space Permissions' screen as described above. The **Anonymous Access** section shows the space permissions granted to all anonymous users of the site.
   - To assign permissions, check the box for the required permission.
   - To deny a permission, uncheck the relevant box.

2. Click 'Save All' to apply the permissions.

You cannot grant space 'Admin' rights or Page 'Restrict' rights to anonymous users.

**Screenshot: Edit space permissions**
You can edit the current space permissions here. Permissions can be granted to specific users or groups. You can also grant permissions to anonymous users. Anonymous users refers to all users that are not logged in. For information about the individual permissions that can be assigned, please see the permissions guide.

**Groups**

These groups have access to this space in Confluence - that means they can view the pages, comments and news items within it.

**Individual Users**

These individual users have access to this space in Confluence - that means they can each view the pages, comments and news items within it.

**Anonymous Access**

When a user is using Confluence while not logged in, they are using it anonymously. For example: Enabling anonymous 'commenting' permission, allows non-logged-in users to make comments in this space.

---

**About some error messages you may see**

In Confluence 2.7.2 and later, Confluence will let you know if there is a problem with some permissions. In rare situations, you may see the following error messages below a permission:

- **'User/Group not found'** — This message may appear if your LDAP repository is unavailable, or if the user/group has been deleted after the permission was created.
- **'Case incorrect. Correct case is: xxxxx'** — This message may appear if the upper/lower case in the permission does not match the case of the username or group name. If you see a number of occurrences of this message, you should consider running the routine supplied to fix the problem.

**Revoking Space Permissions**

You need to be a space administrator to remove or revoke space permissions.

To revoke space permissions,
1. Click on the 'Browse Space' link for that space. This is located at the top of every page and beside the space link on the dashboard.

2. Go to the tab 'Space Admin'. This tab is only displayed if you are a space administrator.

3. Click on the 'Permissions' link in the left panel under the heading 'Security'. This will display the space's current permissions assigned to the different groups and users.

4. Click 'Edit permissions'. This will bring up a new screen. See screenshot.

5. Uncheck the permissions you wish to revoke. Removing the 'View' permission for a user or group will remove all access to that space for the user or group.

6. Click 'Save All' to apply the permissions.

Screenshot: Assigning Space Permissions

Groups
These groups have access to this space in Confluence - that means they can view the pages, comments and news items within it.

<table>
<thead>
<tr>
<th>Group</th>
<th>Pages</th>
<th>News</th>
<th>Comments</th>
<th>Attachments</th>
<th>Mail</th>
<th>Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>all</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>atlassian-staff</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

Individual Users
These individual users have access to this space in Confluence - that means they can each view the pages, comments and news items within it.

No users currently have access rights to this space.

Users to add: [add]

Anonymous Access
When a user is using Confluence while not logged in, they are using it anonymously. For example: Enabling anonymous 'commenting' permission, allows non-logged in users to make comments in this space.

<table>
<thead>
<tr>
<th>Group</th>
<th>Pages</th>
<th>News</th>
<th>Comments</th>
<th>Attachments</th>
<th>Mail</th>
<th>Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anonymous</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

Save All | Cancel

RELATED TOPICS
Space Permissions Overview
Assigning Space Permissions
Viewing Space Permissions
Users and Groups

Take me back to Confluence User Guide

Viewing Space Permissions
You need to be a space administrator to view the permissions assigned for a space.

To view the permissions assigned for a space,

1. Click the 'Browse Space' link for that space.
2. Click the 'Space Admin' tab. This tab is only displayed if you are a space administrator.
3. Click the 'Permissions' link in the left-hand panel under the 'Security' heading. This will display all the permissions assigned to the different groups and users for this space.

Below is an example. The ticks in the boxes indicate which permissions have been granted. The crosses indicate which permissions have been denied.
In Confluence 2.7.2 and later, Confluence will let you know if there is a problem with some permissions. In rare situations, you may see the following error messages below a permission:

- **'User/Group not found'** — This message may appear if your LDAP repository is unavailable, or if the user/group has been deleted after the permission was created.
- **'Case incorrect. Correct case is: xxxxxx'** — This message may appear if the upper/lower case in the permission does not match the case of the username or group name. If you see a number of occurrences of this message, you should consider running the routine supplied to fix the problem.

### Users and Groups

A user is any individual who accesses Confluence.

New users are created by a Confluence administrator via the Administration Console. See Searching For and Managing Users for more information.

A Confluence administrator can also group users together into user groups for more convenient administration. This means that any permissions you assign at the site, space and page levels can be assigned to a whole group. A user in one of these groups will automatically be granted all permissions granted to the group.

There are two special groups in Confluence:

- **Confluence-Administrators** - This is a ‘super-group’ and a user from this group has permission to do anything in the site regardless
Confluence 3.0 Documentation

of any other setting.

- **Confluence-Users** - This is the default group into which all new users are assigned. Permissions you assign to this group will be assigned to all newly signed-up users of Confluence.

**Anonymous Users**

Confluence treats all users who do not log in when they access Confluence as being 'Anonymous'. Administrators can assign permissions to this group separately.

**Overlapping group and user permissions**

When a user is assigned more than one permission, the most powerful permission will prevail.

Further explanation:

- A user may be assigned a permission specifically to their username. They may also be assigned a permission by belonging to a group, or even several groups.
- The user will then be able to perform all functions assigned to them.
- So if a user is allowed to do something over and above what the group can do, the user will be able to do it. And if the group is allowed to do something over and above the specific permissions granted to the user, the user will still be able to do it.

**RELATED TOPICS**

- Space Permissions Overview
- Viewing Space Permissions
- Assigning Space Permissions
- Page Permissions
- The Administrator's Guide to User Management in Confluence

Take me back to Confluence User Guide

**Searching for Users**

This page tells you how to use the 'User Search' window, which appears when you click a 'Choose Users' link or a user search icon on a Confluence page.

**On this page:**

- Accessing the User Search
- Using the Simple User Search
- Using the Advanced User Search
- Searching for Users in One or More Groups
- Selecting One or More Users
- More about the User Search

**Accessing the User Search**

To access the 'User Search' window,

1. Click the user search link or icon when you are performing one of the following actions:
   - When setting page restrictions, click the 'Choose users' link.
   - When assigning space permissions, click the icon in the users section.
   - When adding members to a group, click the icon.
2. The simple 'User Search' window will appear, as shown below.

**Using the Simple User Search**

**Crowd and the User Search**

If you are using Atlassian's Crowd for user management, you will need Crowd 1.5.1 or later to use the 'Simple' option in the user search. If your version of Crowd does not support the simple user search, you will see only the 'Advanced' search form.

To search via the simple user search,
1. Select the 'User' tab on the 'User Search' screen. (See above for instructions on accessing the screen.)
2. If the 'Simple' link is showing, click it. (If you see the 'Advanced' link and no 'Simple' link, then you're fine. The simple search is already active.)
3. The simple user search screen will appear, as shown below.
4. Type some information about the user into the 'Search' textbox. You can type all or part of their username, full name or email address.
5. Click the 'Search' button.
6. Confluence will return a list of matching users. See below for instructions on selecting one or more users.

![Screenshot: Simple user search](image)

**Using the Advanced User Search**

The advanced user search allows you to specify the field in which your search term appears, i.e. username, full name or email address. You may find this useful if you need to limit the number of users appearing in the search results.

To search via the advanced user search,

1. Select the 'User' tab on the 'User Search' screen. (See above for instructions on accessing the screen.)
2. If the 'Advanced' link is showing, click it. (If you see the 'Simple' link and no 'Advanced' link, then you're fine. The advanced search is already active.)
3. The advanced user search screen will appear, as shown below.
4. Complete one or more of the following fields:
   - **User Name** — Enter all or part of the person's username i.e. their login id, e.g. 'joe', or 'bloggs'.
   - **Full Name** — Enter all or part of the person's name, e.g. 'joe bloggs', or 'bloggs', or 'joe'.
   - **E-Mail** — Enter all or part of the person's email address, e.g. 'acme'
5. Click the 'Search' button.
6. Confluence will return a list of matching users. See below for instructions on selecting one or more users.

![Screenshot: Advanced user search](image)

**Searching for Users in One or More Groups**

You can also list the users who appear in a particular group or in a set of groups.

To search for users in a particular group,
1. Select the 'Membership' tab on the 'User Search' screen. (See above for instructions on accessing the screen.)
2. The 'Group Membership' search screen will appear, as shown below.
3. Type all or part of a group name into the 'Search' textbox.
4. Click the 'Search' button.
5. Confluence will return a list of users belonging to any groups which match your search term.
   - In the example screenshot below, we entered a group name of 'dev'. The search results show all users belonging to the group 'developers' and all users belonging to the group 'developers-mates'.
6. Now you can select one or more users, as described below.

**Selecting One or More Users**

After searching for users and receiving a list of names from Confluence, as described above, you can now select the user(s) you need.

**To select one or more users,**

1. Click the box next to the username(s) to select or unselect one or more users.
   - You can click 'Check All' to select or unselect all users.
2. Click the 'Select User(s)' button.
3. The 'User Search' window will close and the selected users will appear on the screen which you were using before you accessed the user search.
More about the User Search

Case Sensitivity

The search is not case sensitive. You can enter either upper- or lower-case text, and it will make no difference to the search results.

Wild Cards

The search allows the asterisk as a wild card, but you do not need to use it. The search results will be the same whether you use a wild card or not. The wildcard functionality remains available for compatibility with older versions of Confluence.

You can use an asterisk "*" as a wild card when entering user details. The search will allow one or more characters to match the asterisk. For example:

- Enter jon* to retrieve all the following: 'Jon Bloggs', 'Jon Smith' and 'Jonathan Jones', etc
- Enter *bloggs to retrieve all the following: 'James Jon Bloggs', 'Joe Bloggs', 'Jon Bloggs' and 'Richard Bloggs', etc
- Enter *jon* to retrieve all the following: 'James Jon Bloggs', 'Jon Bloggs', 'Jon Smith' and 'Jonathan Jones', etc

RELATED TOPICS

Searching Confluence
Setting a Page’s Restrictions
Assigning Space Permissions
Adding or Removing Users in Groups

Take me back to Confluence User Guide

Viewing Restricted Pages

Restricted pages are pages that have 'View' or 'Edit' restrictions applied to them through page-level permissioning.

You need to be a space administrator to view the list of restricted pages in a space.

To view restricted pages,

1. Click on the 'Browse Space' link for the space. This is located at the top of every page or beside the space link on the dashboard.
2. Go to the 'Space Admin' tab. This tab is only displayed if you are a space administrator.
3. Click on 'Restricted Pages' in the left panel under the heading 'Security'.
   A list of all restricted pages in the space is displayed.
4. Click on the 'lock' icon to remove restrictions for the page.

Here’s an example:
Confluence Notation Guide Overview

Confluence pages are stored internally in a simple content-formatting language called Wiki Markup, based on Textile.

The Wiki Markup Editor allows you to edit Confluence pages directly in wiki markup language. This has the advantage of being faster than the Rich Text Editor for some formatting tasks.

A quick notation guide, Notation Help, appears beside the edit screen when you choose the Wiki Markup edit tab. You can then click the full notation guide link in the help window to view the full Notation Guide. This shows you the entire list of formatting and other complex operations that Confluence's notation permits, along with the markup detailing how to perform them.

Try it now

Because wiki markup is designed to be simple to learn, the quickest way to learn wiki markup is to edit an existing page, switch to the wiki markup editor and experiment.

Below are some links to more information on wiki markup editing:

- Full Notation Guide
- Working with Headings
- Working with Text Effects
- Working with Text Breaks
- Working with Links
- Working with Anchors
- Working with Images
- Working with Lists
- Working with Tables
- Working with Macros
- Confluence Emoticons

What does the Notation Guide contain and why is it not part of the Confluence User Guide?

The Confluence Notation Guide is included as part of the Confluence code and is dynamically generated when you view it. Its contents depend upon:

- the macro plugins available in the Confluence installation
- the documentation included by the plugin developer for the installed version of the plugin.

If you view the Full Notation Guide from the Atlassian Confluence site, you will see the information for the macro plugins currently installed on this site. If you view the Full Notation Guide from your own Confluence instance, you will see information for the macro plugins installed on your site.

The plugin developer writes the help file and includes it in the macro code.

Examples of Markup

Here's a short example of some typical markup:

| What you type | What you get |
Confluence Markup

Ideally, the markup should be *readable* and even **clearly understandable** when you are editing it. Inserting formatting should require few keystrokes, and little thought. After all, we want people to be concentrating on the words, not on where the angle-brackets should go.

- Kinds of Markup
  - Text Effects
  - Headings
  - Text Breaks
  - Links
  - Other

Here, in comparison, is how that would look if you had to edit the page in HTML:

```html
<h4>Confluence Markup</h4>
<p>Ideally, the markup should be <em>readable</em> and even <strong>clearly understandable</strong> when you are editing it. Inserting formatting should require few keystrokes, and little thought.</p>
<p>After all, we want people to be concentrating on the words, not on where the angle-brackets should go.</p>
<ul>
  <li>Kinds of Markup</li>
  <ul>
    <li>Text Effects</li>
    <li>Headings</li>
    <li>Text Breaks</li>
    <li>Links</li>
    <li>Other</li>
  </ul>
</ul>
```

RELATED TOPICS

- Full Notation Guide
- Rich Text Editor Overview
- Writing Confluence pages
- Creating a New Page
- Working with Macros

Take me back to Confluence User Guide

Confluence Emoticons

Emoticons are little images you can easily use in a Confluence page. They use a simple wiki markup as shown below, or you can insert them using the Rich Text editor.

Graphical emoticons (smileys).

<table>
<thead>
<tr>
<th>Notation</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>:)</td>
<td>😊</td>
</tr>
</tbody>
</table>
Form Field Markup for Templates

Templates are written in the same notation as other pages in Confluence with special markup to insert form fields. When a user creates a page using a template that contains form fields, the user will be prompted to key in data. The data will be captured and stored in the new page.

Here are the three kinds of form fields supported and the markup to create them:

<table>
<thead>
<tr>
<th>Text field</th>
<th>Creates a text input field for a variable called VAR.</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>@VAR@</code></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Text area</th>
<th>Creates a 5 x 10 text-area for a variable called VAR.</th>
</tr>
</thead>
<tbody>
<tr>
<td>`@VAR</td>
<td>textarea(5,10)@`</td>
</tr>
</tbody>
</table>
Drop down menu

```@VAR|list(one,two,three,four)@
```

Creates a drop-down box containing the values "one", "two", "three" and "four".

**Note:** The values in the drop-down list can only contain letters, numbers and underscores.

The dropdown list values cannot include:

- special characters, such as `&`
- punctuation marks, such as `:`
- brackets, such as `)`

Every input field must have a unique name. If you have more than one text input field in the same template with the same name, Confluence will make sure that they all end up with the same value (This is useful if you need the same information in more than one place in the page).

For an example, please see Adding a Template.

**Warning**

There must be no spaces between the @-signs in the markup. This means you can't have items in your drop-down lists that contain spaces.

---

**Improved Markup**

The above formatting is the basic markup bundled with Confluence, but two plugins expand on this markup to provide greater functionality. Links to these plugins and a comparison can be found in the Working with Templates Overview.

**RELATED TOPICS**

- Working with Templates Overview
- Scaffolding Plugin
- Zones Plugin
- Adding a Template
- Editing a template
- Creating a Page using a Template

---

**Take me back to Confluence User Guide**

---

**Working with Headings**

You can use Confluence Notation or the Rich Text editor to create headers.

Creating a header is easy. Simply place "hn." at the start of your line (where n can be a number from 1-6).

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>h1. Biggest heading</td>
<td>Biggest heading</td>
</tr>
<tr>
<td>h2. Bigger heading</td>
<td>Bigger heading</td>
</tr>
<tr>
<td>h3. Big heading</td>
<td>Big heading</td>
</tr>
<tr>
<td>h4. Normal heading</td>
<td>Normal heading</td>
</tr>
<tr>
<td>h5. Small heading</td>
<td>Small heading</td>
</tr>
<tr>
<td>h6. Smallest heading</td>
<td>Smallest heading</td>
</tr>
</tbody>
</table>
Note that Confluence treats all headings as anchors.

**RELATED TOPICS**

Rich Text-Working with Text Effects
Working with Text Effects
Working with Macros

Take me back to Confluence User Guide

**Working with Lists**

Confluence allows you to create bulleted or numbered lists, and is flexible enough to allow a combination of the two lists.

1. If you need to separate the text within lists using line breaks, make sure you do so using a double slash (/\). Empty lines may disrupt the list.

**Simple lists**

Use the hyphen (-) to create simple lists.
Make sure there is a space between the hyphen and your text.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>- somebulletpoints</td>
<td>• somebulletpoints</td>
</tr>
</tbody>
</table>

**Bulleted lists**

Use the asterisk (*) to create bullets. For each subsequent level, add an extra asterisk.
Make sure there is a space between the asterisk and your text.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>* somebulletpoints</td>
<td>• somebulletpoints</td>
</tr>
</tbody>
</table>

**Numbered lists**

Use the hash (#) to create numbered lists.
Make sure there is a space between the hash and your text.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td># a numberedlist</td>
<td>1. a numbered list</td>
</tr>
</tbody>
</table>

A second level of hashes will produce a sub-list, such as the **alphabetical** sub-list shown below.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td># a numberedlist</td>
<td>1. a numbered list</td>
</tr>
<tr>
<td># b numberedlist</td>
<td>2. b numbered list</td>
</tr>
<tr>
<td># c numberedlist</td>
<td>3. c numbered list</td>
</tr>
</tbody>
</table>
Try a third level of hashes to produce a sub-sub-list.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>
| `# Here's a sentence.  
## This is a sub-list point.  
### And a second sub-list point.  
# Here's another sentence.` | `1. Here's a sentence.  
a. This is a sub-list point.  
b. And a second sub-list point.  
2. Here's another sentence.` |

In numbered lists as described above, the format of the 'number' displayed at each list level may be different, depending upon your browser and the style sheets installed on your Confluence instance. So in some cases, you may see letters (A, B, C, etc; or a, b, c, etc) or Roman numerals (i, ii, iii, etc) at different list levels.

**Mixed lists**

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
</table>
| `# Here  
## is  
* an  
# example  
* of  
# a  
# mixed  
# list` | `1. Here  
• is  
• an  
2. example  
• of  
• a  
3. mixed  
4. list` |
Working with Tables

You can use Confluence wiki markup or the Rich Text editor to create tables. Below are some guidelines on using wiki markup to create tables.

Confluence allows you to create two types of tables.

**Table Type 1**

Allows you to create a simple table with an optional header row. You cannot set the width of the columns in this table. Use double bars for a table heading row.

**What you need to type:**

```
<table>
<thead>
<tr>
<th>heading 1</th>
<th>heading 2</th>
<th>heading 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>cell A1</td>
<td>cell A2</td>
<td>cell A3</td>
</tr>
<tr>
<td>cell B1</td>
<td>cell B2</td>
<td>cell B3</td>
</tr>
</tbody>
</table>
```

**What you will get:**

<table>
<thead>
<tr>
<th>heading 1</th>
<th>heading 2</th>
<th>heading 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>cell A1</td>
<td>cell A2</td>
<td>cell A3</td>
</tr>
<tr>
<td>cell B1</td>
<td>cell B2</td>
<td>cell B3</td>
</tr>
</tbody>
</table>

Currently, Confluence does not support nested tables.

You can also use a vertical header.

**What you need to type:**

```
| heading 1 |  |  |
|-----------| |  |
|           |  |  |
|           | col A1| col A2| col A3 |
|           | col B1| col B2| col B3 |
```

**What you will get:**

<table>
<thead>
<tr>
<th>heading 1</th>
<th>col A1</th>
<th>col A2</th>
<th>col A3</th>
</tr>
</thead>
<tbody>
<tr>
<td>heading 2</td>
<td>col B1</td>
<td>col B2</td>
<td>col B3</td>
</tr>
</tbody>
</table>

**Table Type 2**

This method allows you to specify the width of the columns in the table.

**What you need to type**
What you will get

Text for this column goes here. This is the smaller column with a width of only 30%.

Text for this column goes here. This is the larger column with a width of 70%.

For more details please see the Column Macro and the Section Macro.

Advanced Formatting

Colour and Other Formatting

To add colour and other formatting to your tables, you can use the Panel Macro within columns. More table-formatting options may be available if your Confluence administrator has installed additional macros.

Lists

Here's an example of how to embed lists in a table:

What you need to type

<table>
<thead>
<tr>
<th>Heading 1</th>
<th>Heading 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Item 1</td>
<td>1. Item 1</td>
</tr>
<tr>
<td>* Item 2</td>
<td>2. Item 2</td>
</tr>
<tr>
<td>* Item 3</td>
<td>3. Item 3</td>
</tr>
</tbody>
</table>

What you will get

<table>
<thead>
<tr>
<th>Heading 1</th>
<th>Heading 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Item 1</td>
<td>1. Item 1</td>
</tr>
<tr>
<td>* Item 2</td>
<td>2. Item 2</td>
</tr>
<tr>
<td>* Item 3</td>
<td>3. Item 3</td>
</tr>
</tbody>
</table>

RELATED TOPICS

Rich Text-Working with Tables
Working with Macros

Take me back to Confluence User Guide

Working with Text Breaks

Paragraph break

When writing text in Confluence, a continuous line of text with two carriage returns at its end forms a paragraph in its own right. This is equivalent to a continuous line of text followed by a blank line.

When rendered into HTML, the result is a line of text ‘wrapped’ in a set of `<p>` tags.

Line break
Confluence also provides two options for forcing a line break within a paragraph of text either implicitly, by entering a single carriage return at its end or explicitly, by entering two consecutive backslashes (\).

When rendered into HTML, the result is a paragraph of text split into separate lines by `<br>` tags, wherever a forced line break appears.

For most purposes, explicit line breaks are not required because a single carriage return will often suffice. However, the examples below show how explicit line breaks can be used.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>here is some text \ \ divided \ \ using line \ \ breaks</td>
<td>here is some text divided using line</td>
</tr>
<tr>
<td>This is a short list: * Point 1 \ * Point 2 \ \ \ \</td>
<td>This is a short list:</td>
</tr>
<tr>
<td>Text to go with point 1 \ Text to go with point 2 with a</td>
<td>• Point 1</td>
</tr>
<tr>
<td>break</td>
<td>• Text to go with point 1</td>
</tr>
<tr>
<td></td>
<td>• Point 2</td>
</tr>
<tr>
<td></td>
<td>• Text to go with point 2 with a break</td>
</tr>
</tbody>
</table>

If you wish to use multiple consecutive line breaks, each should be separated by a space character. For example, use `\ \` for two consecutive line breaks.

**Horizontal ruler**

Use four dashes (----) to create a horizontal ruler.

Make sure that the dashes are in a separate line from the text.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td>here is some text ---- divided by a horizontal ruler</td>
<td>here is some text __________________</td>
</tr>
</tbody>
</table>

**RELATED TOPICS**

- Working with Lists
- Confluence Notation Guide Overview

Take me back to [Confluence User Guide](#)

**Working with Text Effects**

Use the markup shown in the examples below to format the text in your pages.

<table>
<thead>
<tr>
<th>What you need to type</th>
<th>What you will get</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>strong</em></td>
<td>strong</td>
</tr>
<tr>
<td><em>emphasis</em></td>
<td>emphasis</td>
</tr>
<tr>
<td>??citation??</td>
<td>citation</td>
</tr>
<tr>
<td>-deleted-</td>
<td>deleted</td>
</tr>
<tr>
<td>+inserted+</td>
<td>inserted</td>
</tr>
<tr>
<td>^superscript^</td>
<td>superscript</td>
</tr>
</tbody>
</table>
bq. Here’s how you make text in a paragraph into a block quotation

{(color:red)look ma, red text!{(color)}

**RELATED TOPICS**

Working with Headings

Take me back to Confluence User Guide

**Rich Text Editor Overview**

The Rich Text editor provides users accustomed to HTML editing or other text editing applications, an easier and faster way to creating Confluence pages. It allows you to enter content as you would in a Word document, and apply formatting simply by clicking icons on a toolbar.

The 'Edit' screen lets you switch between 'Rich Text' and 'Wiki Markup' edit modes without losing the changes you've made; so you can use a combination of both while editing. For instance, you can use the rich text editor to change the text colour and then switch to Wiki Markup to create links.

You can also set the editor open either 'Wiki Markup' or 'Rich Text' by default, depending on your preference.

ℹ️ You can run the editor in a full-screen editing mode by clicking this icon at the far right of the toolbar.

### Rich Text Editing can be disabled

This option is enabled by default. Be aware however that site administrators can disable it. If it is disabled, a site administrator will need to enable it again from the Administration Console before you can start using the Rich Text editor.

**The Rich Text Editor**

![Rich Text Editor interface]

**Right-click Context Menu**

The Rich Text editor incorporates a right-click context menu that provides an additional mechanism for handling common editing actions available through the toolbar icons or keyboard shortcuts. For more information about the right-click context menu, refer to Rich Text-Right-Click Context Menu.
Enabling Rich Text Editing

Users have the option of using Confluence's Rich Text editor to create and edit page content. This option is enabled by default. If disabled, a site administrator will need to turn on 'Rich Text Editing' under 'General Configuration' on the Administration Console.

RELATED TOPICS

Rich Text Editor Overview
Making Rich Text or Wiki Markup Editing Default

Rich Text-Right-Click Context Menu

The Rich Text editor incorporates a right-click context menu that provides an additional mechanism for handling common editing actions, which are available through the toolbar icons or keyboard shortcuts.

The Rich Text Editor's right-click context menu

From the right-click context menu, you can insert or edit:

- A link
- An image
- A macro
- A table

Additional right-click context menu options to those shown above are available when editing links and tables.

Activating and deactivating the Right-Click Context Menu

By default, the right-click context menu may not be active. However, it can be activated using the 'Context Menu' icon in the toolbar.

To activate the right-click context menu,

Click the 'Context Menu' icon in the toolbar.

The 'Context Menu' icon changes to its activated state, indicating that the right-click context menu is active.

To deactivate the right-click context menu,
Click the active 'Context Menu' icon in the toolbar.

Alternatively, right-click within the Rich Text Editor's text editing area and click 'Disable context menu' from the context menu.

The 'Context Menu' icon changes to its deactivated state, indicating that the right-click context menu is not active.

RELATED TOPICS

Rich Text-Creating and removing a link
Rich Text-Inserting an image
Rich Text-Working with Tables
Rich Text Editor Overview

Take me back to the Confluence User Guide.

Rich Text-Creating and removing a link

This page tells you how to add a link to your Confluence page. A link, or hyperlink, is a word or phrase which, when clicked, will direct the user to another web page or other location.

Wiki Markup mode and Rich Text editor

You can click the 'Insert Link' icon in either Wiki Markup mode or the Rich Text editor. The functionality described below is essentially the same for both editing modes.

On this page:

• Creating a link
• Removing a link

Creating a link

To create a new link,

1. Place your cursor at the point where you want to insert the link.
2. Click the 'Insert Link' icon in the toolbar.
   Alternatively, if the right-click context menu is enabled, you can right-click and choose 'Insert/Edit Link' from the context menu.
3. In the 'Link' text box, enter the URL (location) of the link.
   Use the tabs to help you find the URL:
   • Search – Search the spaces in your Confluence site for a particular term or phrase, then select your link location from the search results.
   • History – Select your link location from recently-visited pages.
   • Recently Modified – Select your link location from pages recently modified by yourself or other Confluence users.
   • External Link – Enter the URL of an external location.
   • Attachments – Select one of the attachments to the current page. You can also browse for a file and attach it to the page, then select it to create the link.
4. If you want your link to display specific words on the page, rather than the actual URL, enter the desired text in the 'Alias' text box.
5. If you want your link to display a short popup help tip, enter the desired text in the 'Tooltip' text box.
6. Click the 'OK' button to add the link.

You can also conveniently convert existing text into a link:

Instead of performing step one (above) you can highlight one or two or more consecutive words before proceeding directly to step two. By doing this, the words you selected will automatically appear in the 'Alias' text box.

To create a link via keyboard shortcut,

1. Press Ctrl-K (Internet Explorer in Windows). See Keyboard Shortcuts for key combinations used on other browsers and operating systems.
2. This will open up the 'Insert Link' window.
3. Follow the instructions in the sections above to complete the link creation.
Removing a link

You can easily remove a link using the right-click context menu.

To remove a link via the right-click context menu,

- Right-click over the link you want to remove and choose 'Unlink' from the context menu. The link will be removed from your text.
- The 'Unlink' item only appears on the right-click context menu when you right-click over an existing link.

**RELATED TOPICS**

Rich Text-Linking to a Page
Rich Text-Inserting an image
Rich Text-Linking to an Attachment

Take me back to the Confluence User Guide.

**Rich Text-Inserting an image**

This page tells you how to attach and insert an image, using the 'Insert Image' icon on the editor toolbar. You can also use Wiki Markup to insert an image.

**Wiki Markup mode and Rich Text editor**

You can click the 'Insert Image' icon in either Wiki Markup mode or the Rich Text editor. The functionality described below is basically the same for both editing modes.

To insert an image,
1. First, save your image somewhere on your computer or a network drive. For example, if your image is a screenshot you first need to save it. You can't paste the screenshot directly onto a Confluence page.

2. Click the 'Insert Image' icon in the toolbar. Alternatively, if the right-click context menu is enabled, you can right-click and choose 'Insert/Edit Image' from the context menu. The 'Insert Image' window will open.

3. If you have already attached images to the page, they will be listed in the 'Insert Image' window.

4. If you want to attach a new image:
   - Click the 'Browse' button.
   - Select your file from your computer or your network.
   - Click the 'Attach' button.

5. If you want to display an image attached to the page, click one of the attached images. The image name will appear in the 'Filename' text box.

6. If you want to display a remote image, enter the URL in the 'Filename' text box.

7. If you want the Confluence page to display a smaller version of your image rather than the full-size image, select the 'Thumbnail' check box. This will also hyperlink the image - if the user clicks the image, a new window will open displaying the full-size image.

8. If you want to control the placement of the image on the page, select a value from the 'Alignment' dropdown list. Available values are 'None' (i.e. default), 'Left', 'Centre' and 'Right'.

9. Click 'OK' to insert the image on the Confluence page.

To insert an image via keyboard shortcut,

1. Press Ctrl-M (Internet Explorer in Windows). See Keyboard Shortcuts for key combinations used on other browsers and operating systems.
2. This will open up the 'Insert Image' window.
3. Follow the instructions in the sections above to complete the image insertion.
1. Click 😊 on the toolbar. This will pop up the emoticons window.
2. Select the emoticon to insert it.

You can also insert emoticons by typing commonly-used character combinations. For example, the following code appears as an emoticon when the page is rendered.

This example creates this emoticon: 😊.

**Preventing Emoticons from Appearing**

To prevent Confluence from turning parts of text into emoticons, 'escape' the character sequence by inserting a `\` character.

For example, this character sequence contains an emoticon:

This example creates this in a rendered page: (-example_here😊).

To 'escape' the emoticon sequence, insert a slash as in the following example:

The characters will then appear exactly as typed.
RELATED TOPICS

Rich Text-Inserting an image
How to Disable Emoticons

Take me back to Confluence User Guide

Rich Text-Inserting Symbols

To insert a symbol,

1. Click Ω on the toolbar. This will pop up the ‘Custom Characters’ window.
2. Click on the symbol to insert it.

Screenshot : Custom Characters

RELATED TOPICS

Rich Text-Inserting emoticons

Take me back to the Confluence User Guide.

Rich Text-Linking to an Attachment

This page tells you how to add a link which points to a file attached to your Confluence page. A link, or hyperlink, is a word or phrase which, when clicked, will open the attachment.
Wiki Markup mode and Rich Text editor

You can click the 'Insert Link' icon in either Wiki Markup mode or the Rich Text editor. The functionality described below is basically the same for both editing modes.

To link to an attachment,

1. Click the 'Insert Link' icon on the toolbar. This will open up the 'Insert Link' window.
2. Click the 'Attachments' tab. If any files are attached to your page, the attachments are listed here. Click the title of an attachment title to select it.
3. If you do not find the attachment you are looking for, you can also attach a new file from here. Click 'Browse' to select your file and click 'Attach', then select the file.
4. If you want your link to display specific words on the page, rather than the actual URL, enter the desired text in the 'Alias' text box.
5. If you want your link to display a short popup help tip, enter the desired text in the 'Tooltip' text box.
6. Click the 'OK' button to insert the link.

Read about creating new links for more information on the 'Insert Link' window.

Screenshot: Linking to an Attachment

Insert Link

<table>
<thead>
<tr>
<th>Link</th>
<th>Alias</th>
<th>Tooltip</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OK Cancel

Search History Recently Modified External Link Attachments

There are no attachments on this page.

Attach File: Browse Attach

RELATED TOPICS
Rich Text-Linking to an Image
Rich Text-Creating and removing a link

Rich Text-Linking to an Image

To link to an image,

1. Open the page in Edit mode.
2. Click on the toolbar. This will open up the 'Insert Link' window.
3. Go to the 'Attachments' tab, which lists all files attached to the page. On the Attachments tab, you can:
   - Insert a link to the image by clicking the image name to select it and then clicking 'OK'.
   - Attach a new image to the page by clicking 'Browse' to select your file and then clicking 'Attach'.

RELATED TOPICS
Rich Text-Linking to an Attachment
Rich Text-Inserting an image

Rich Text-Linking to a Page
To link to a page in Confluence,

1. While editing a page, click on the Rich Text Editor toolbar. This will open up the 'Insert Link' window.
2. Click on one of these tabs: 'History' or 'Recently Modified' to select the page you want to link to.
   Or:
   Do a Search for the page using the search facility and select a page from the search results.
3. Click 'OK'.

To link to a page outside Confluence,

1. While editing a page, click on the Rich Text Editor toolbar. This will open up the 'Insert Link' window.
2. Click on 'External Links' tab.
3. Enter the URL of the webpage in the text-entry field and click 'OK'.

To create a link via keyboard shortcut,

1. Press Ctrl-K (Internet Explorer in Windows). See Keyboard Shortcuts for key combinations used on other browsers and operating systems.
2. This will open up the 'Insert Link' window.
3. Follow the instructions in the sections above to complete the link creation.

To paste a link from your web browser,

1. In your web browser, click-and-drag to select the link text on the page.
2. Copy the selection to your clipboard (Ctrl-C or Edit > Copy in Windows).
3. Paste the selection into the Rich Text Editor (Ctrl-V or Edit > Paste in Windows).
4. The link’s original presentation will be replicated as closely as possible (the link’s name, the actual URL and some text formatting will be retained).
5. When you save the page, the link will be live.

RELATED TOPICS

Rich Text-Creating and removing a link
Take me back to the Confluence User Guide.

Rich Text-Working with Tables

The rich text editor provides several table editing features.

On this page:
- Inserting a Table
- Table Toolbar Options
- Additional Right-Click Context Menu Table Options
  - Copying or Cutting and Pasting Rows
- Resizing a table using the mouse

Inserting a Table

To create a table,

1. Place your cursor at the point where you want to insert the table.
2. Click on the Rich Text Editor toolbar.
   Alternatively, if the right-click context menu is enabled, you can right-click and choose 'Insert Table' from the context menu.
   The 'Insert Table' window will open.
3. Enter the number of columns and rows for your table.
4. Select the check box if you want a heading style applied to the first row of the table.
5. Click 'OK'.

Table Toolbar Options

When you are editing a table and your cursor is placed within the table cell, the following options become available from the toolbar.
To do this with respect to the current table cell position | Click this
---|---
Insert an empty row above the current one | 
Insert an empty row below the current one | 
Remove the current row | 
Insert column to the left of the current one | 
Insert column to the right of the current one | 
Remove the current column | 
Remove the table | 

Additional Right-Click Context Menu Table Options

When you access the right-click context menu from within a table cell, additional options become available from this menu.

| To do this with respect to the current table cell position | Choose the following from the right-click context menu |
---|---|
Insert an empty row above the current one | Row > Insert row before |
Insert an empty row below the current one | Row > Insert row after |
Remove the current row | Row > Remove row |
Toggle between making the current row a heading or a normal row | Row > Heading row |
Insert column to the left of the current one | Column > Insert column before |
Insert column to the right of the current one | Column > Insert column after |
Remove the current column | Column > Remove column |
Remove the table | Remove table |

Copying or Cutting and Pasting Rows

The right-click context menu allows you to conveniently copy or cut and paste rows of a table. You can paste rows that you have cut or copied elsewhere within the same table or in another table.

⚠️ You cannot paste a row to another table in which the destination table has more columns than that of the table from which the row was cut or copied.

| To do this with respect to the current table cell position | Choose the following from the right-click context menu |
---|---|
Cut out the current row | Row > Cut row |
Copy the current row | Row > Copy row |
Insert the cut/copied row above the current one | Row > Paste row before ⭐ |
Insert the cut/copied row below the current one | Row > Paste row after ⭐ |

⭐ These options are only available if a row has been cut or copied first.

Screenshot: Right-Click Context Menu from within a Table Cell
Resizing a table using the mouse

1. Click anywhere inside the table to select it. The square (resize) boxes appear along the corners and edges of the table, as shown in the image above.
2. Click and hold down your mouse button over one of these resize boxes. While holding down your mouse button, drag the mouse to resize the table and release the mouse button when the table is at the required size.

Clicking a resize box along the edge of a table allows you to resize the table in one dimension, whereas clicking a resize box at the corner of a table allows you to resize the table in two dimensions.

**RELATED TOPICS**

Rich Text Editor Overview
Rich Text-Right-Click Context Menu

Take me back to the Confluence User Guide.

**Rich Text-Working with Text Effects**

The Rich Text editor supports most text effects available in standard text editing applications.

*On this page:*

- Applying Heading Styles
- Applying Text Formatting
- Applying Text Colours
- Related Topics

**Applying Heading Styles**

<table>
<thead>
<tr>
<th>To do this</th>
<th>Click this</th>
<th>Shortcut Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heading 2</td>
<td>Paragraph</td>
<td>Ctrl-(1-6) (on Windows, with Internet Explorer). See alternatives.</td>
</tr>
</tbody>
</table>

Screenshot: Choosing Heading Styles from the Rich Text Editor Toolbar
Applying Text Formatting

To apply an effect, select the text and click one of the icons below, or use the shortcut key.

**Screenshot: Text Formatting Buttons on the Rich Text Editor Toolbar**

<table>
<thead>
<tr>
<th>To do this</th>
<th>Click this</th>
<th>Shortcut Key</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bold</strong></td>
<td>B</td>
<td>Ctrl-b (on Windows, with Internet Explorer). <a href="#">See alternatives.</a></td>
</tr>
<tr>
<td><strong>Italics</strong></td>
<td>I</td>
<td>Ctrl-i (on Windows, with Internet Explorer). <a href="#">See alternatives.</a></td>
</tr>
<tr>
<td><strong>Underline</strong></td>
<td>U</td>
<td>Ctrl-u (on Windows, with Internet Explorer). <a href="#">See alternatives.</a></td>
</tr>
<tr>
<td><strong>Strike</strong></td>
<td>ABC</td>
<td>none</td>
</tr>
</tbody>
</table>

⚠️ There is currently no command for removing all formatting.

Applying Text Colours

To apply text colours, select the text you wish to change and then click this button ▪️ to select a text colour. A small colour-picker menu appears in-line.

**Screenshot: Picking Colours from the Rich Text Editor Toolbar**
Keyboard Shortcuts

Confluence provides the following keyboard shortcuts for English users. The letters may change in other languages.

Note that 'Alt' is the modifier key for Internet Explorer on Windows (except when using the Rich Text Editor — in that case it's 'Ctrl'). Other browsers have different modifier keys to activate the shortcuts; please see Modifier Keys below.

### All Screens

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alt-Q</td>
<td>Quick search field</td>
</tr>
<tr>
<td>Alt-S</td>
<td>Submit (where a form is active)</td>
</tr>
</tbody>
</table>

### Rich Text Editor Screen

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl-(1-6)</td>
<td>Applies a heading style (of the number chosen) to the current line</td>
</tr>
<tr>
<td>Ctrl-M</td>
<td>Insert Image (opens insert image dialog)</td>
</tr>
<tr>
<td>Ctrl-K</td>
<td>Insert Link (opens insert link dialog)</td>
</tr>
<tr>
<td>Tab</td>
<td>Indents current line only in bullet lists &amp; numbered lists</td>
</tr>
<tr>
<td>Shift+Tab</td>
<td>'Outdents' current line only in bullet lists &amp; numbered lists</td>
</tr>
<tr>
<td>Ctrl-B</td>
<td>Makes the selected text <strong>bold</strong></td>
</tr>
<tr>
<td>Ctrl-I</td>
<td>Makes the selected text <em>italic</em></td>
</tr>
<tr>
<td>Ctrl-U</td>
<td>Makes the selected text <em>underlined</em></td>
</tr>
<tr>
<td>Ctrl-Z</td>
<td>Undo the most recent action</td>
</tr>
<tr>
<td>Ctrl-Y</td>
<td>Revert an action that was undone</td>
</tr>
</tbody>
</table>

Safari users please note: In the Rich Text Editor, the shortcut keys for **bold**, *italic* and *underlined* do not currently work. See CONF-13555. Cmd-B and Cmd-I currently toggle bold and italic formatting.

### Login Screen

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alt-U</td>
<td>Username field</td>
</tr>
<tr>
<td>Alt-P</td>
<td>Password field</td>
</tr>
<tr>
<td>Alt-R</td>
<td>Check 'Remember Me'</td>
</tr>
</tbody>
</table>
View Screen

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alt-A</td>
<td>Attachments View</td>
</tr>
<tr>
<td>Alt-E</td>
<td>Edit Page</td>
</tr>
<tr>
<td>Alt-I</td>
<td>Information View</td>
</tr>
<tr>
<td>Alt-M</td>
<td>Add Comment</td>
</tr>
</tbody>
</table>

Add Page Screen

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alt-A</td>
<td>Add Page</td>
</tr>
<tr>
<td>Alt-P</td>
<td>Preview Page</td>
</tr>
<tr>
<td>Alt-S</td>
<td>Save button</td>
</tr>
</tbody>
</table>

Edit Page Screen

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alt-U</td>
<td>Update Page</td>
</tr>
<tr>
<td>Alt-P</td>
<td>Preview Page</td>
</tr>
<tr>
<td>Alt-S</td>
<td>Save button</td>
</tr>
</tbody>
</table>

Modifier Keys

The modifier key will differ with each operating system and browser. For example, when running Firefox 2 on Windows, you will need to type 'Alt' + 'Shift' + 'E' to add a new page. The following table shows the modifier keys for the various combinations:

<table>
<thead>
<tr>
<th>Browser</th>
<th>Mac OSX</th>
<th>Windows</th>
<th>UNIX/Linux</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Explorer</td>
<td>Ctrl</td>
<td>Alt</td>
<td>n/a</td>
</tr>
<tr>
<td>Mozilla Firefox 2</td>
<td>Ctrl</td>
<td>Alt + Shift</td>
<td>Alt + Shift</td>
</tr>
<tr>
<td>Mozilla Firefox 1</td>
<td>Ctrl</td>
<td>Alt</td>
<td>Alt</td>
</tr>
<tr>
<td>Opera</td>
<td>Shift + Esc</td>
<td>Shift + Esc</td>
<td>Shift + Esc</td>
</tr>
<tr>
<td>Safari</td>
<td>Ctrl</td>
<td>Ctrl</td>
<td>Ctrl</td>
</tr>
</tbody>
</table>

In the Rich Text Editor, the shortcut key modifier is different from the regular page shortcut key. For example in Safari, the general page shortcut key is 'Ctrl', but when using the Rich Text Editor, the shortcut key is 'Command'.

Note: In Internet Explorer, links will only be highlighted by shortcut keys; you will need to press Enter to proceed. Buttons, however, are activated through the shortcut.

RELATED TOPICS

Take me back to Confluence User Guide

Confluence Glossary

Administration Console

The Administration Console is the interface for the global administration of Confluence.

Only administrators can access the Administration Console.
The Confluence permission scheme allows the following main levels of administrator permissions:

- System Administrator – full administrative access to Confluence.
- Confluence Administrator – access to most of the Confluence administrative functions, but excluding those which could compromise the security of the Confluence system.

Please refer to the overview of global permissions for details of the functions which each level of administrator can perform.

**Breadcrumbs**

The breadcrumbs trace the path from the current page to the dashboard along the space's page-hierarchy.

The breadcrumbs in Confluence are listed at the top of every page.

**CamelCase**

CamelCase is a form of markup commonly used in wikis where words compounded together LikeThis without spaces are used to create links.

In Confluence, Camelcasing can be turned on from the Administration Console.

**Change Comment**

A change comment is a short description entered during the edit of a page to record the changes being made in the edit.

**Child Pages**

Creating child and parent pages is a means by which you can organize content on the site. A child page is a page that has a parent in any of the Confluence spaces.

A child can only have one parent.

**Comments**

A comment may be a remark, question, or any other additional information you wish to add to a page pertaining to the topic the page covers. You can comment on any page or news item in Confluence.

**Confluence Administrators**

The Confluence permission scheme allows the following main levels of administrator permissions:

- System Administrator – full administrative access to Confluence.
- Confluence Administrator – access to most of the Confluence administrative functions, but excluding those which could compromise the security of the Confluence system.

Please refer to the overview of global permissions for details of the functions which each level of administrator can perform.

**Confluence Markup**

This is the markup used to write and edit pages in Confluence. Based on Textile, the markup, when you become familiar with it, makes creating pages as easy as writing email.

**Custom Decorators**

Decorator files are used to define layouts in Confluence. They are vmd files and require knowledge of the language, Velocity, to edit.

**Dashboard**

The dashboard is the front page of a Confluence site. It provides an overview of the site, access to all spaces, and displays a list of the most recently updated content within them.

**Form Field Markup**

Form field markup is a specialised markup for creating form fields and is used when creating page templates.

**Global Administrators**
A global administrator is the same as a system administrator.

Global Spaces
Global spaces contain content on any theme or topic of your choice.
For more information about global spaces and personal spaces, see Working with Spaces Overview.

JIRA
JIRA is Atlassian's award winning Issue tracking and project management application.
Visit Atlassian's website to learn more about JIRA.

Labels
Labels are user-defined tag words assigned to pages to categorise content in Confluence.

Macros
A macro is a command wrapped inside curly braces {...} used to perform programmatic functions and generate more complex content structures in Confluence.

News Items
A news item may be a journal entry, status report or any other timely information pertaining to a space.

Notifications
A notification is an email message sent to you updating you of changes to pages and spaces you choose to ‘watch’.

Orphaned Pages
An orphaned page is a page without any incoming links.

Pages
Pages are the primary means of storing information in Confluence. They are the building blocks of spaces and are written in Confluence markup.

Page Family
Pages in Confluence can be organised into a hierarchy of parent and child pages. A parent and all its children comprise a page family. Confluence permits nested page families.

Parent Page
A parent page is a page that has one or more child pages. It may itself be a child of another page.

People Directory
The People Directory contains a list of all users in your Confluence site. Each user's name links to their personal space.

Permalink
A permalink is the url used to link to specific content items like comments.

Personal Spaces
Personal spaces belong to particular users, and rather than being listed on the Dashboard, are available from the People Directory.

For more information about global spaces and personal spaces, see Working with Spaces Overview.

## RSS Feeds

An RSS feed is a format for delivering summaries of regularly changing web content. RSS is read by RSS newsreader programs. You will need an RSS reader to subscribe to feeds within Confluence.

Confluence acts as an RSS reader for feeds from sites outside of Confluence.

## RSS Reader

An RSS reader is a specialised RSS program (also called aggregator) that displays the contents of RSS feeds for you. To subscribe to RSS feeds within Confluence, you will need an RSS reader.

## Site Administrators

The Confluence permission scheme allows two levels of administrator permissions:

- **System Administrator** – full administrative access to Confluence.
- **Confluence Administrator** – access to most of the Confluence administrative functions, but excluding those which could compromise the security of the Confluence system.

Please refer to the overview of global permissions for details of the functions which each level of administrator can perform.

## System Administrators

The Confluence permission scheme allows two levels of administrator permissions:

- **System Administrator** – full administrative access to Confluence.
- **Confluence Administrator** – access to most of the Confluence administrative functions, but excluding those which could compromise the security of the Confluence system.

Please refer to the overview of global permissions for details of the functions which each level of administrator can perform.

### Space Administrators

A space administrator is a user with the ‘Space Admin’ permission for the space. A user with this permission can perform a host of functions relating to the management of a space and has complete access to the space regardless of any other control settings or permissions.

Permissions for a space are only assigned and modified by space administrators.

## Spaces

A space is an area on your site into which you can group different content items together based on any theme of your choice. All content in Confluence is organised into spaces.

There are two types of spaces: **global spaces** and **personal spaces**.

## Templates

A template is a pre-defined page that can be used as a prototype when creating pages. Templates are useful for giving pages a common style or format.

## Themes

Themes are pre-defined ‘look and feel’ styles which are configured from the administration menu and can be applied across Confluence or to a single space.

## Tiny links

A tiny link is the shortened url of a page which is useful when sending links to the page, for example, via email.

## Trackback
Trackback is a mechanism by which two sites can stay informed each time one site refers to the other by means of trackback 'pings'. In Confluence, Trackback is enabled from the Administration Console.

**Trackback Autodiscovery**

Trackback autodiscovery is a block of code that can be placed in a web-page to describe where trackback pings should be sent for that page. You can read the technical specification for autodiscovery here.

When Trackback is enabled, Confluence uses Trackback Autodiscovery to ping pages that are linked to, and to advertise its own pages as being able to receive pings.

**Undefined Links**

An undefined link is a link to a page that has not yet been created. Clicking on the page link allows you create the page.

**User Profile**

Every user account in Confluence is linked to a profile that contains user related information and options to configuring user preferences.

**Watching a Page**

When you watch a page, you are sent an email notification whenever that page has been modified.

**Watching a Space**

When you watch a space, you are sent an email notification whenever content has been added or modified in that space.

**Wiki**

Pioneered by Ward Cunningham, and named after the Hawaiian word for 'quick', a wiki is a website that makes it easy for anyone to contribute pages, and link them together.

**RELATED TOPICS**

**Confluence Icons**

Take me back to Confluence User Guide

**Troubleshooting Problems & Requesting Technical Support**

This document tells you how to troubleshoot problems and obtain technical support.

On this page:

- Troubleshooting a Problem
- Raising a Support Request
  - Raising a Support Ticket via the Confluence Support Request Form
  - Raising a Support Ticket via the Internet
- Logging a Bug Report
  - STEP 1. Check your Bug is Undiscovered
  - STEP 2. Confirm the Bug

**Troubleshooting a Problem**

If you have a problem with Confluence, please follow these steps:

1. If you are not a Confluence administrator, report your problem to the person in charge of your Confluence site and ask them to follow up on the issue.
2. Check our Frequently Asked Questions and our Knowledge Base for a solution to your problem.
3. Check the appropriate Confluence component in JIRA for known bugs.
4. If you are having problems configuring a feature, please take a look at the appropriate guides:
   - Confluence Installation Guide
   - Confluence Setup Guide
   - Administrators Guide
   - Configuration Guide
   - Database Configuration
5. If your issue is related to your database server, please refer to the documentation within the Known Issues For Supported Databases section.
6. If your issue is related to your application server, please refer to the documentation within the Installing the Confluence EAR-WAR Distribution section.
7. If your problem may be related to a plugin, you can enter Plugin Support Mode by briefly disabling the third party plugins.

If the above documentation does not solve your problem, you should create a support request. If you believe you are experiencing a bug, you may wish to create a bug report instead. Instructions for both are given below.

Raising a Support Request

Please check the plugin support

If you have a plugin-related issue, please check whether the plugin is supported by Atlassian. Visit the plugin's home page in the Extension space, and check for the 'Atlassian Supported' logo. If the plugin is not supported by Atlassian, you will need to contact the author directly.

There are two ways to raise a support request with Atlassian:

- Complete the support request form via your Confluence Administration Console. The advantage of this method is that Confluence will create the support ticket and attach the relevant system information and logs for you.
- Raise a support ticket directly via our support site on the internet.

Both methods are described below.

Raising a Support Ticket via the Confluence Support Request Form

This method is recommended, provided that SMTP email is set up on your Confluence instance.

The advantage of this method is that Confluence will create the support ticket and attach the relevant system information and logs for you.

You can also use this method to append system information to an existing support ticket.

1. Log in as a user with System Administrator or Confluence Administrator access.
2. Go to the Administration Console and click 'Support Request' under 'Administration' in the left-hand panel. The 'Raise Support Request' form will appear. Part of the form is shown below:
Support Request

Complete as much information as you can and then click submit to send your request to Atlassian Confluence Support.

Please be patient when submitting this form. It may take a few minutes depending on how long it takes to export your data to a file.

To: mail.confluence-support.requests@atlassian.com
CC: 

*Subject:*
Enter a one line summary of the problem.

*Description:*
Enter as much information as possible, including any error messages that are appearing and any steps the support team can take to reproduce the problem.

Existing Support Request:

To create a new support request, simply leave this field blank.

On To attach the information on this page to an existing support request, please enter the relevant issue key (e.g. CSP-12345).

**Contact Name:**

**Contact Email:**
tom@mycompany.com

**Contact Phone Number:**

Send  Cancel

The following is the additional information about your Confluence installation that will be sent along with the support request

<table>
<thead>
<tr>
<th>Environment Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System Information</strong></td>
</tr>
<tr>
<td><strong>System Date</strong></td>
</tr>
<tr>
<td><strong>System Time</strong></td>
</tr>
<tr>
<td><strong>System Favourite Colour</strong></td>
</tr>
<tr>
<td><strong>Java Version</strong></td>
</tr>
</tbody>
</table>

3. Please provide as much information as possible, following these guidelines:

   - **‘To’** — This is an email address, named the Site Support Address and configured on the ‘General Configuration’ screen of your Confluence instance. It points to a JIRA instance (usually the Atlassian Support System) which is configured to receive and handle support requests by email.

   - **‘CC’** — Any email address(es) entered here will receive a copy of the support request, including all system information. You can enter more than one email address, separated by commas (e.g. joe@mycompany.com, sally@mycompany.com, jane@myothercompany.com).

   - **‘Subject’** — Enter a short and meaningful description of the problem.

   - **‘Description’** — Please enter as much information as possible, including any error messages that are appearing and any steps the support team can take to reproduce the problem.

   - **‘Existing Support Request’** — If you have previously raised a support request for the problem, please type the issue key here (e.g. CSP-12345). The information on this form will be appended to the existing support ticket.

   - **‘Contact Name’** — This will default to the name of the logged-in user.

   - **‘Contact Email’** — This will default to the email address of the logged-in user.

   - **‘Contact Phone Number’** — Please enter a telephone number where our support staff can reach you. Include international and city codes.

4. Click the ‘Send’ button.

5. Confluence will submit your request via email to the JIRA instance referenced by the ‘To’ email address on the form. If you do not already have a support account, Confluence will automatically request one for you. The submitted request will include all the system and environment information which you see on the support request form. It will also include a zipped copy of your Confluence log file. Refer to Working with Confluence Logs for information about the log files. JIRA will create a support ticket including the submitted information.

   **Log files can be very big** — it is possible that your email server may bounce the message if too large. With the default log4j configuration, the log file could be up to 20Mb in size. If you have customised the log settings, the maximum size could be much...
larger still. Please check whether the email message has been successfully sent, and consult your email administrator if you need special provisions for this email message.

6. Once you have submitted your support request, you will receive email updates about its progress. These emails will give you the support ticket number.

You can view the status of your support request and add any additional information required by visiting the Atlassian Support System at any time.

Raising a Support Ticket via the Internet

If your Confluence instance is not configured with SMTP mail or your Confluence instance is not running, you can raise a support ticket via the Atlassian Support System:

1. Create a zip of your Confluence logs to attach to the ticket. Refer to Working with Confluence Logs for information about the log files.
2. If your problem concerns user management or performance, please take a look at the additional requirements in Requesting External User Management Support or Requesting Performance Support.
3. If you do not already have a free Atlassian support account, create one here.
4. Log in to https://support.atlassian.com and select 'Create New Issue'.
5. Lodge a detailed description of your problem in the new support ticket.
6. Fill in all applicable information about your system, such as application server, database, etc.
7. If Confluence is running, go to the System Information screen in your Administration Console and copy the text of your system information into the ticket.
8. Once your ticket is lodged, wait to be notified by email of updates. If your production instance of Confluence is experiencing a critical problem, jump on Live Support and ask to have your issue reviewed immediately.

Logging a Bug Report

If you have found a bug, the easiest way to report it is to:

- Create numbered instructions on how to reproduce the bug.
- Log them as a support request.

The Atlassian support team will confirm your bug and lodge a bug report. Alternatively, you can log a bug report directly by confirming it according to these instructions:

STEP 1. Check your Bug is Undiscovered

1. Visit the Confluence bug tracker.
2. On the left under 'Text Search', type keywords for your problem into the Query field.
3. Click View and browse the summaries of the unresolved bugs. If any summary appears to describe your problem, check that the bug is not a match. If it is the same, you may wish to set a watch to be notified of updates or apply your vote towards having it resolved. If the problem does not already appear to have been logged, the next step is to confirm that the problem is a bug.

STEP 2. Confirm the Bug

Check the headings below. If one of the headings matches your problem, follow the instructions. If the problem does not fall under any category, follow the general instructions instead.

**Bug Affects Page Rendering or Content**

If you are having issues with Wiki Markup or page content not being shown as expected:

1. Create a new page in the Confluence Sandbox and try to duplicate the issue there.
2. If the problem recurs, log the new bug here.
3. Paste the web address (URL) of the Sandbox page along with the process you used to duplicate the problem.
4. If the issue does not occur, this is may not be a bug and you should log the problem as a support request instead.

**Bug Prevents Confluence from Starting**

Please lodge a support request with your configuration information and numbered instructions on how to reproduce the issue.

**Bug in External User Management**

Please lodge a support request with your user management configuration and numbered instructions on how to reproduce the bug.

**General Bug Confirmation**

1. If Confluence will not run, please log the problem as a support request instead.
2. Attempt to replicate the bug:
   - Download the latest version of Confluence Standalone.
   - Install the Standalone with the appropriate database and the demonstration site.
   - Try to duplicate your problem on the default setup with the demonstration data.
3. If the issue does not occur, you should open a support ticket.
4. If the issue does occur, log the new bug here along with the information you used to duplicate it.
5. Once your issue is lodged, wait to be notified by email of updates. If your production instance of Confluence is experiencing a critical problem, jump on Live Support and ask to have your issue reviewed immediately.

### 500 page

Sometimes it may be useful to include the result of the `500page.jsp`

```markdown
https://<domain>:<host>:<port>/500page.jsp
```

### RELATED TOPICS

- General Support Enquiries
- Requesting External User Management Support
- Requesting Performance Support
- Feature Requests
- Configuring the Site Support Address
- Site Configuration

---

## Content Anonymiser for Data Backups

### Introduction

A Jira data anonymiser is also available.

Atlassian may request a copy of the `entities.xml` file from a customer's exported zip file, in order to diagnose database corruption, or to find a bug in Confluence.

If your data is confidential, you can run this program over your `entities.xml` file, removing all your data and leaving only the structure of the export.

### Usage

To run the anonymiser on your backup:

1. Download the anonymiser JAR.
2. Extract the `entities.xml` file from your zipped backup file to the same directory as the JAR.
3. Use the command prompt to go to the directory where all three files are located.
4. To create `cleaned.xml`, run the command:

```
java -jar confluence-export-cleaner-1.1-jar-with-dependencies.jar entities.xml cleaned.xml
```

### How it works

The Content Anonymiser application replaces all the text content in file `entities.xml` with 'x' characters. For example, the word "Atlassian" will be transformed to "xxxxxxxxx". The resulting `cleaned.xml` file is expected to have the same size of the original file.

This release of the export cleaner uses STX, a fast and efficient XML transformation technology. It should not require a lot of memory to run, even for a large backup.

### Development

For Atlassian developers:

- Source code
- Maven repository

---

## Editing or Deleting a Page That Won't Render

You may be able to access the edit page URL by hitting ctrl+e
If you have a page that you can't access (for example, due to an incompatible plugin that won't render a macro), you can delete or edit the page by manually entering the appropriate URL. The URL looks like this:

```
http://<baseurl>/pages/removepage.action?pageId=<pageID>
http://<baseurl>/pages/editpage.action?pageId=<pageID>
http://<baseurl>/pages/editblogpost.action?pageId=<pageID>
```

Substitute your page ID for the one you wish to delete. To determine the page ID, you may be able to access it from the edit page URL by hitting ctrl+e. If not, you can obtain this information from the database using an SQL query like this:

```
SELECT CONTENTID FROM content WHERE TITLE = '<pagename>' AND VERSION = '1';
```

This may return multiple results if there are pages with the same name in different spaces, so you may have to further determine the correct one.

To delete an attachment manually, you can use a URL like:

```
http://<baseurl>/pages/removeattachment.action?pageId=32787&fileName=harbour.jpg&version=1
```

To view the attachments on a page:

```
http://<baseurl>/pages/viewpageattachments.action?pageId=<pageId>
```

Get the page ID similarly.

To get the wiki markup from the database directly, try:

```
SELECT BODY FROM BODYCONTENT WHERE CONTENTID IN (SELECT CONTENTID FROM content WHERE TITLE = '<insert name of page or blog post>');
```

**Enabling detailed SQL logging**

Confluence uses the open source persistence framework Hibernate. This page tells you how to configure Confluence's logging to report individual SQL requests being sent to the database by Hibernate. It is useful for troubleshooting:

- XML site backups that fail to import
- Exceptions caused by an illegal database operation

Enable SQL logging via the Administration Console

Since the 2.7 release, you can also enable SQL logging at runtime via the Administration Console — read the instructions. This runtime option does not allow you to enable logging of SQL parameter values.

To enable detailed SQL logging in Confluence, you need to modify `log4j.properties`, located in `confluence/WEB-INF/classes`.

After you have enabled hibernate logging, please replicate the action that is causing the error in the first place. This is the best way to ensure that the Confluence log file contains relevant SQL logging.

If you require support assistance with a database related problem, it is advisable to enable detailed SQL logging before sending us the log files. This will assist us in determining what SQL queries were running during the reported problem.

If the entries mentioned below are not defined in the `log4j.properties` file, you can manually add the entries to the file in the 'Hibernate Logging' section.

**To Log SQL Queries**

Stop Confluence, then uncomment the following lines in `log4j.properties`:
## log hibernate prepared statements/SQL queries (equivalent to setting 'hibernate.show_sql' to 'true')
log4j.logger.net.sf.hibernate.SQL=DEBUG,confluencelog
log4j.additivity.net.sf.hibernate.SQL=false

### To Log SQL Queries with Parameters

Stop Confluence, then uncomment the following lines in `log4j.properties`:

```
## log hibernate prepared statement parameter values
log4j.logger.net.sf.hibernate.type=DEBUG,confluencelog
log4j.additivity.net.sf.hibernate.type=false
```

### To Disable Batched Updates for Simpler Debugging

Stop Confluence, then edit `databaseSubsystemContext.xml`:

- In Confluence 2.5.x and earlier, the `databaseSubsystemContext.xml` file is at
  `confluence/WEB-INF/classes/databaseSubsystemContext.xml`
- From Confluence 2.6.x, the `databaseSubsystemContext.xml` file is available in the `confluence-2.6.0.jar` file located in the `<confluence-install>/WEB-INF/lib` directory.

Uncomment the `<prop>` line in the following location:

```
<!-- it can be useful to disable batching during debugging, as HSQLDB doesn't report the exact
statement which fails in batch mode -->
<prop key="hibernate.jdbc.batch_size">0</prop>
```

**RELATED TOPICS**

- Troubleshooting SQL exceptions
- Working with Confluence Logs

**General Support Enquiries**

For information on Confluence features and configuration.

**Online Documentation**

- Confluence Setup Guide
- Administrators Guide
- Configuration Guide
- Online Forum. For general discussion, plugin development, customisation, new features and issues.
- Subscribe to the Mailing List. Mailing list posts are archived on the Online Forum and posts to the forum online are sent to the Mailing List, so you can use either method.

**Support Requests**

Check out Troubleshooting Problems & Requesting Technical Support

**Feature Requests**

View Creating a Feature Request

**Live Support**

Live Support is available during US, Malaysian and Australian business hours, 19 hours a day, Monday to Friday. Downtime is 9am to 2pm GMT. Click to see 9am and 2pm GMT in your local time. Live Support is unavailable on weekends.

If you are experiencing a problem, you should always create a support request before using Live Support.

**Generating a Thread Dump**

- Stack Traces and Security
- Generating a Thread DumpExternally when Confluence stops responding
- Generating a Thread Dump via the Administration Console
1. **Scheduling Thread Dumps via the Administration Console**

If Confluence is performing poorly, behaving unexpectedly or stops responding and you can generate a thread dump to help diagnose the cause of the problem. Furthermore, if you wish to contact Atlassian Support for assistance about it, you should include a thread dump in your support enquiry to help the Support team determine the cause of the problem.

A thread dump will show the state of each thread in the JVM, including a stack trace. Thread dumps are only useful if they are taken at the appropriate time. They normally need to be taken at or close to the time when the application is experiencing problems.

Information about what locks are being held and waited upon by a thread are not produced by Confluence’s Thread Dump tool. If you require this information, then generate a thread dump externally.

### Stack Traces and Security

To help debug support cases and provide legendary support, Confluence provides stack traces through the web interface when an error occurs. These stack traces include information about what Confluence was doing at the time, and some information about your deployment server.

Only non-personal information is supplied such as operating system and version and Java version. With proper network security, this is not enough information to be considered dangerous. No usernames or passwords are included.

### Generating a Thread Dump Externally when Confluence stops responding

If Confluence stops responding or you require information on locks being held and waited upon by threads, then use one of methods described in **Generating a Thread Dump Externally**.

### Generating a Thread Dump via the Administration Console

For Confluence 2.10.3 or below

This feature was introduced in Confluence 3.0. if you are using a prior version then please consult this documentation on Generating a Thread Dump Externally.

**For Confluence 2.10.3 or below**

This feature was introduced in Confluence 3.0. if you are using a prior version then please consult this documentation on Generating a Thread Dump Externally.

To generate a Thread Dump from the Administration Console,

1. Go to the Confluence ‘Administration Console’. To do this:
   - Open the ‘Browse’ menu and select ‘Confluence Admin’. The ‘Administration Console’ view will open.
   - Select ‘Thread Dump’ in the left-hand panel.
   - Click the ‘Generate Now’ button in the centre of the page. The output is displayed in a new text box that appears just below the button.
   - Copy the contents of the thread dump in the text box and save it to a text file.

**Screenshot: Example of a generated thread dump from the Confluence administration console**
Scheduling Thread Dumps via the Administration Console

If you were asked by Atlassian Technical Support to generate regular thread dumps, please set the Thread Dump Scheduler to take 2 to 3 thread dumps with a 30 seconds time interval in between so the Support team can observe any important patterns that may assist with the diagnosis of the problem. Attach the log file to the support ticket.

Example: Scheduling thread dumps from the Confluence administration console

<table>
<thead>
<tr>
<th>Schedule Thread Dump Execution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The output will be written to your log file.</td>
</tr>
<tr>
<td><strong>Number of thread dumps to generate:</strong></td>
</tr>
<tr>
<td><strong>Pause between thread dumps:</strong></td>
</tr>
<tr>
<td><strong>Schedule Now</strong></td>
</tr>
</tbody>
</table>

Generating a Thread Dump Externally

If Confluence stops responding and you cannot access its integrated Generate Thread Dump feature, it is possible to create thread dumps outside the application. External thread dumps are also useful if you require information on locks being held or waited upon by threads.

Generating a Thread Dump on Windows

To take a thread dump from Windows:

2. Click Run for any security warnings
3. Under Process Id, select the ‘...’ button.
4. From the drop-down list, select the Confluence process. Users running Confluence Standalone, select the ‘Java (Tomcat) ...’ option. Users running Confluence WAR should select their application server process.
5. Under Process -> Properties, Ensure that the "Thread dump" and "Keep Remote Thread Running" is selected.
6. Select Process -> Thread Dump
7. Save the output to a file, eg ‘threaddump.log’

Alternatively, if you were asked by Atlassian technical support to create the thread dump, please take 2 to 3 thread dumps with a time interval in between (eg. 30 seconds) so we can see some patterns. Attach the log file to the support ticket.

Generating a Thread Dump on Linux, including Solaris and other Unixes

Find the process ID of the JVM and use the `ps` command to get list of all processes:

```
ps
```

```
kill -3 <pid>
```

Note: This will not kill your server (so long as you included the "-3" option, no space in between). The thread dump will be printed to Confluence's standard output (catalina.out).

Output

Standard logging for Confluence Stand-alone is sent to the `atlassian-confluence.log` in the confluence-home directory, not in the confluence-install directory. Thread dumps are an exception since they dump the threads of the entire application server - they'll appear in the catalina.out file in the application directory's logs folder. You can search for the term "thread dump" in the log file for the beginning of the dump. Submit this along with the atlassian-confluence.log in your support ticket.

Thread Dump Tools

- Samurai
- Thread Dump Analyzer TDA TDA 1.0 Final can be obtained from the [java.net](http://java.net)
**Plugin Support Mode**

Incompatible with Confluence Clustered
At this time, Plugin Support Mode will not work correctly in a Confluence cluster.

Beginning with Confluence version 2.9 the Plugin Repository Client now offers "Support Mode" for troubleshooting plugin-related issues. It will temporarily disable all unsupported plugins and re-enable them with a single click.

1. From Administration > Plugin Repository, choose the Admin tab.
2. Click "Enter Support Mode."

To re-enable the plugins, click the same link to restore the plugins to their previous state.

If you get errors when trying to re-enabled plugins, this is because some third-party plugins cannot be disabled and then re-enabled at runtime. Restart Confluence to restore your complete list of plugins.

**Profiling using the YourKit Plugin**

There is a plugin for Confluence 2.2 and later which allows easy profiling using the YourKit profiler. No license is required to generate a memory or CPU snapshot, but you will need at least an evaluation license to analyse the results.

JIRA also has a plugin to profile JIRA's CPU and memory usage with YourKit.

On this page:
- Configuring YourKit in your JVM
  - Windows Configuration
  - Linux/Mac OS X Configuration
- Performance Impact
- Installing the YourKit Plugin
- Why would I do this?
- Plugin Source Code

**Configuring YourKit in your JVM**

Download YourKit 6.0 for your platform and follow the installation instructions to install it.

⚠️ Note: YourKit version 7 is not compatible with the Confluence yourkit plugin.

The following instructions apply to Confluence Standalone and Tomcat installations with Sun JDK 1.5. They should be easily applicable to other application servers and JVMs, however. The YourKit documentation covers this in more detail.

**Windows Configuration**

On Windows, add to your PATH environment variable the bin/win32/ directory underneath the YourKit installation directory. For example, you might add "C:\Program Files\YourKit Java Profiler 6.0.12\bin\win32" to your PATH, via Control Panel, System, Advanced, Environment Variables.

To configure Confluence's JVM to use the YourKit agent, you need to add a parameter to JAVA_OPTS in the bin/setenv.bat file in your Confluence application directory. This file controls the startup parameters for Tomcat, so you'll need to restart it after making the changes.

Add the 'agentlib' parameter to the end like this:

```
set JAVA_OPTS=%JAVA_OPTS% -Xms128m -Xmx256m -agentlib:yjpagent
```

**Linux/Mac OS X Configuration**

On Unix-based systems, include the installation directory in the library path environment variable, as shown below:

- For the Mac: `export DYLD_LIBRARY_PATH=$DYLD_LIBRARY_PATH:/path/to/yourKitAgent`
- For other Unix-based systems: `export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/path/to/yourKitAgent`

In general, to configure a Sun 1.5 JDK, you add the agentlib parameter:

```
java -agentlib:yjpagent ...
```

You can add this to Tomcat's bin/setenv.sh like this:
Performance Impact

Running YourKit can have detrimental effects on performance.

To minimize performance problems use the following modifications to the agentlib parameter:

```
-agentlib:yjpagent=disablecounts,disablealloc,disablej2ee
```

See also Profiling overhead: how to reduce or avoid in the YourKit documentation.

Installing the YourKit Plugin

Download the plugin and upload it into Confluence through the Administration, Plugins page.

A new menu option will appear under the 'Administration' heading. Click it and you should see the options to take a memory or CPU snapshot.

YourKit Profiling menu item

This profiler dump will be saved to a local temp directory, and the path shown once it is complete. For the CPU snapshot, this will take at least 30 seconds. For the memory snapshot, 10-15 seconds.

You can take either a memory or CPU snapshot

Why would I do this?

Analysing a profiler dump enables Atlassian Support (or you, if you are interested) to see exactly what is happening in your application: what classes are using the memory, what is using CPU and so on. This can help us debug tricky performance problems which would otherwise be impossible to analyse remotely.

Take a CPU snapshot if:

- Confluence is sometimes unresponsive
- Pages take a long time to load
- Confluence’s CPU usage is peaking.

Take a memory snapshot if:

- Confluence’s memory usage is higher than you expect
- You are getting OutOfMemoryError’s in your logs.
If you run into situations where Confluence is unresponsive and you are not able to trigger a memory snapshot, please ensure that you start Confluence with the \texttt{onexit=memory} parameter in the JVM options (as in the example below) and simply shut down Confluence. Before shutting down a memory snapshot will be created.

\begin{verbatim}
-agentlib:yjpagent=onexit=memory
\end{verbatim}

**Plugin Source Code**

The source code for this Confluence plugin is available from Subversion and browseable in Fisheye. The JAR produced by `mvn package` includes a copy of the YJP redistributable bundled in META-INF/lib/.

**Tips of the Trade**

Below are some links to external blog posts, videos and articles containing technical tips and instructions on setting up and using Confluence. This page presents an opportunity for customers and community authors to share information and experiences.

The references here are specific to Confluence wiki and are technical 'how to' guides written by bloggers who use Confluence. For general information on wiki comparisons, wiki adoption, best practices and business cases, please refer to the Atlassian website and to our evaluator resources.

Please be aware that these are external blogs and articles. Most of the links point to external sites, and some of the information is relevant to a specific release of Confluence. Atlassian provides these links because the information is useful and relevant at the time it was written. Please check carefully whether the information is still relevant when you read it, and whether it is relevant to your version of Confluence. Unless explicitly stated, Atlassian does not offer support for third-party extensions or plugins. The information in the linked blog posts has not been tested or reviewed by Atlassian. We recommend that you test all solutions on a test server before trying it on your production site.

On this page:

- Tracking Atlassian Confluence usage with Google Analytics
- Moving Confluence from Windows to (Ubuntu) Linux
- Plugging Memory Leaks in Confluence
- Wiki docs — release management
- Delivering technical documentation on a wiki (presentation slides)
- Using a wiki for online help
- Content re-use on a wiki
- Starting out with your technical documentation on a wiki
- Universal Wiki Converter - Now with SSL Support
- Scroll converts wiki to DocBook and PDF
- Playing with DITA2Confluence part 1 and part 2
- The Confluence Reporting HOWTO
- Drawing diagrams on a wiki page
- Organisation is Key
- Creating FAQs
- Styling Tabs in Confluence 2.10
- How to determine the context your macro is being rendered in
- Video: Confluence overview
- Video: Macro browser
### Administration

**Tracking Atlassian Confluence usage with Google Analytics**

And Using the Google Analytics Javascript API to show pageviews from Atlassian Confluence

- By: David Simpson, on blog ‘david simpson’
- About: Setting up Google Analytics for Confluence
- Date: 18 March 2009 and 11 September 2009
- Related documentation:
  - How Do I Get More Statistics From Confluence?
  - How to audit Confluence - enabling user access logging

**Moving Confluence from Windows to (Ubuntu) Linux**

- By: Ricky Sheaves, on blog ‘flimflam’ (calebscreek)
- About: Moving Confluence to its own dedicated environment: Ubuntu 8.04 with a MySQL backend
- Date: 19 October 2008
- Related documentation: Migrating Confluence Between Servers

**Plugging Memory Leaks in Confluence**

- By: Don Willis, on blog ‘Atlassian developer blog’
- About: Identifying memory leaks in Confluence and fixing them
- Date: 1 October 2007
- Related documentation: Performance Tuning

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### Confluence for Technical Documentation

**Wiki docs --- release management**

- By: Sarah Maddox, on blog ‘ffeathers’
- Date: 17 November 2007
- About:
  - Using spaces for version control
  - Release management on a wiki
  - Archiving documentation on a wiki
- Related documentation: The Copy Space plugin

**Delivering technical documentation on a wiki (presentation slides)**

- By: Sarah Maddox, on blog ‘ffeathers’
- About:
  - How a wiki is useful in agile development
  - Workflow and tracking.
  - How to put some structure into wiki documentation.
  - Release management on a wiki
  - Using spaces for version control
  - Steering wiki development — how we as technical writers can let wiki developers and plugin developers know what features we’d like in a wiki.
- Date: 23 May 2009

**Using a wiki for online help**

- By: Sarah Maddox, on the ‘Atlassian Blog’
- About: Pointing online help links to version-controlled wiki documentation spaces
- Date: 13 December 2007

**Content re-use on a wiki**

- By: Sarah Maddox, on blog ‘ffeathers’
- About: Content reuse and defining an inclusions library
- Related documentation:
  - Excerpt Macro
  - Excerpt Include Macro
  - Include Page Macro
- Date: 29 July 2008

**Starting out with your technical documentation on a wiki**

- By: Sarah Maddox, on blog ‘ffeathers’
- About: Choosing your wiki and planning your documentation
- Date: 4 November 2007
Content Conversion

Universal Wiki Converter - Now with SSL Support

- By: Laura Kolker, on the 'Atlassian Blog'
- About: Configuring the UWC for two new features:
  - A Trac Converter module
  - SSL support
- Date: 6 March 2009
- Related documentation: Importing Content from another Wiki

Scroll converts wiki to DocBook and PDF

- By: Sarah Maddox, on blog 'ffeathers'
- About: Using the Scroll Wiki Exporter plugin to convert Confluence content to DocBook XML and to PDF
- Date and Confluence version: 18 May 2009; Confluence 2.10
- Related documentation: The Scroll Wiki Exporter plugin

Playing with DITA2Confluence part 1 and part 2

- By: Sarah Maddox, on blog 'ffeathers'
- About: Using the DITA2Confluence tool to convert documentation from DITA XML to Confluence pages
- Date and Confluence version: October 2008; Confluence 2.9
- Related documentation: The DITA2wiki project on SourceForge

Usage Tips

The Confluence Reporting HOWTO

- By: Jim Severino and John Rotenstein, Atlassian Internal Systems, on the 'Atlassian Blog'
- About:
  - Using Confluence as a reporting and business intelligence tool
- Date and Confluence version: August 2009; Confluence 3.0
- Related documentation: The Confluence Reporting HOWTO

Drawing diagrams on a wiki page

- By: Sarah Maddox, on blog 'ffeathers'
- About:
  - Using the Gliffy plugin to draw diagrams on a Confluence page
  - Links to other tools for displaying flowcharts, graphs etc based on editable content in the wiki page
- Date and Confluence version: 4 July 2009; Confluence 3.0
- Related documentation: The Gliffy plugin

Organisation is Key

- By: Matt Hodges, on the 'Atlassian Blog'
- About: Designing the structure of a Confluence space using an inclusions library, macros and tabbed pages
- Date and Confluence version: 17 March 2009; Confluence 2.10

Creating FAQs

- By: Matt Hodges, on the 'Atlassian Blog'
- About: Designing the FAQ (frequently asked questions) section of your Confluence space
- Date and Confluence version: 2 April 2009; Confluence 2.10

Styling and Customisation

Styling Tabs in Confluence 2.10

- By: Jens Schumacher, on the 'Atlassian Blog'
- About: Using CSS to change the look of the tabs in Confluence
- Date and Confluence version: 12 January 2009; Confluence 2.10
- Related documentation: Styling Confluence with CSS
How to determine the context your macro is being rendered in

- By: Cheryl Jerozal, on the 'Atlassian Blog'
- About: Discovering find out the current render context (including PDF document, feed reader, email notification, etc) from within your macro
- Date and Confluence version: 25 June 2009; Confluence 3.0
- Related documentation: Macro Plugins

To speed up the loading of the page and ensure correct export to PDF, HTML and XML formats, we will just link to the videos rather than including them into the wiki page.

Video: Confluence overview

- By: Matt Hodges, on the Atlassian website
- About:
  - Confluence Overview
  - Create and edit
  - Tracking updates and blogs
  - Security and permissions
  - Attachments and the Office Connector
  - Search and discover
  - Plugins
- Date and Confluence version: July 2009; Confluence 3.0
- Related documentation: Confluence documentation

Video: Macro browser

- By: David Cook, on the 'Atlassian Blog'
- About: Using the new Confluence macro browser in Confluence 3.0
- Date and Confluence version: 18 June 2009; Confluence 3.0
- Related documentation: Working with the Macro Browser

Have you written a technical tip for Confluence?
Add a comment to this page, linking to your blog post or article. We will include it if the content fits the requirements of this page.

Feedback?
Your first port of call should be the author of the linked blog post. If you want to let us know how useful (or otherwise) a linked post is, please add a comment to this page.

Other Sources of Information

- Confluence documentation
- Evaluator resources
- Atlassian website
- Atlassian forums
- Atlassian blog
- Confluence plugins

Information For Evaluators

Useful reading for anyone new to our wiki:

Basics

- Confluence Evaluator Resources
- Example Sites From Customers
- Independent Reviews
What browsers are supported? I cannot see the Rich Text Editor in my browser

Confluence 3.0 is supported in and developed against the following browsers:

The currently supported browsers are:

- Microsoft Internet Explorer 6.0 and 7.0
- Mozilla Firefox 2.0.x and 3.0.x
- Safari 2.0 (no rich-text editing), 3.0 and 3.1

We recommend using the latest production-level versions of these browsers: Firefox 3, Safari 3, Internet Explorer 7. Newer browser versions tend to perform better and have fewer bugs. In particular we strongly suggest using IE7 instead of IE6.

Support for Internet Explorer 6

Confluence will support IE6 until the 13th of July, 2010, in line with Microsoft's Support Lifecycle policy. Confluence 3.0 and future versions through 2009 will continue to support IE6.

Other Browser Support Issues

Rich text editing is not available in Opera (or Safari 2.0) due to Confluence's use of the TinyMCE 2.0 rich text editor component. See CONF-6428 for more information.

Confluence tries to be as standard-compliant as possible, but we only test against released versions of the above browsers. Many other browsers will work fine due to Confluence's general adherence to web standards.

Reporting Issues

If you come across an issue in a supported browser, please raise a bug in Confluence's public issue tracker.

If you come across an issue in an unsupported browser, please raise an improvement request in the same place. If Confluence's compliance with standards can be improved to also fix this issue, we'll leave the issue open for consideration. Unfortunately, we will not be able to fix bugs in unsupported browsers where our markup is valid according to the relevant standard and the bug is due to a problem with the browser itself.

In general, we will not fix issues with pre-release versions of browsers.
RELATED TOPICS

System Requirements